

B.  
JUN 4 1908

100

1875.

Harrison Co. 1908

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50  
D. C. W.

Book No.

REVIEWER'S

(Sep. 2, 1908, continued)  
(Turin - Castana)

Cut 10 is 7 ft deep  
in plateau, on  
low hill E. Lower  
layer yellow, ferruginous  
& few iron nodules.  
Upper part yellow  
nodular.

Turned with & located  
old oil & gas  
Kessler Castana  
at 7<sup>30</sup>. No water, -  
went to restaurant  
after hunting was  
done.

Saw Mr. J. B. Day,  
and was invited to a  
meal.

He has much archaeological  
material, on which  
was also working, etc.  
He also has a fine  
stone, probably fine  
capita & elephant

on cliff  
at 45 ft!

at 62 ft

which was taken  
from pit (gravel) &  
on W. side of Maple  
river, off Fort Carlson.  
An interday man  
of long experience.  
He says it rained  
all of 1858, & in  
1859 a great lot  
of the bluffs slipped.  
He says those about  
bluffs on way to  
Inuvik were formed  
then. And many  
more.  
He says no such  
exposures in this  
country (Yukon).  
Mr. Day's piece of  
bone is from the  
pit in no. 13.

Mr. Day wants  
acorns.  
Now has Red oak -  
Catinella Red cedar (fine)  
Sycamore, walnut  
and brown birch, sedans  
lime, white pine (small)  
(has trouble with them)  
Also rains fine white  
limes.  
  
He says that box oaks,  
now common in valleys  
on both sides of the  
Maple, were 15 yrs  
ago small with  
knobbs, as they  
tried to burn them  
out for pasture.  
Mr. Day also rains  
fine alfalfa on  
the low hills, &  
considers hill land

with more lime  
(at bottom).

5  
Sep. 3, (Th.)

Went out west mil  
R.R. Day to Lincoln  
plains no. 23  
Cut 12 is sandy  
- gutter washing  
out the talus  
like tunnel slope.  
It shows Keween  
drift below, with  
many lime nodules  
implants, & above  
it a red joint  
clay (no sandstone)  
3 or 4 ft. deep.  
Above this yellow  
loam  
the red loam  
follows contour  
of ridge.  
There is no lime on  
the lower slope

Cut 13 is in N. side  
of ravine - 6-8 ft high

100' from road  
above - 100' from  
river to fossils  
as 14 is about  
10 ft high &  
is similar.

Small road  
leads above.

Cut 15 - <sup>much</sup> higher.

Locs - <sup>100 ft</sup> high

Kansas - blue clay

{ I am <sup>not</sup> <sup>sure</sup> joint clay  
interbedded  
probably 8-10 ft

Coarse grain  
with very odd  
large debris.

This is where  
Day got his  
bone.

4 ft. of sand  
over.

about 6 ft of  
blue ~~clay~~ <sup>lime</sup> ~~lime~~ <sup>expansive</sup>  
at 50' & above  
it about 5-6 ft  
of red joint clay  
from

Sphecodium

Pinna

Valvata

Lima

Argyloceras

Planularia

" dilatata

at 16 a well (or  
some) has been  
dug & sand high  
up has

Unis - (fossil)

Planularia

Valvata

A big over slope  
(like where I lost

geodes) above  
16 shows lower in  
vertical wall

Below the wall  
& base of lower

Kansas is exposed  
all along slope  
a very dark  
gray (with pebbles)  
overlying the  
ordinary Kansas  
& then sand

with about 40 ft  
above top of  
base of lower  
bluff about 30  
ft. higher  
Top of bluff about 30  
or 40 ft

grass shows  
spreading spiraea  
below & in  
yellow & white

and I saw no fossils

Cut 17 is yellow  
loam, lower with  
rounded nodules -  
6-8 ft. exposed above  
road on N side.

Cut 18 is white  
loam, & found  
the  
Gould moss along  
road E.

Cut 19 - 16 or 17 ft. deep  
Mud - yellow  
Same laminites

Cut 20. Same, but  
larger (on slope  
up south) 8 ft. deep  
& with other fossils  
rounded nodules, etc.

11  
Sep, 4-1908 (Fr.)

Went E of town to Logan.

cut 21 - is a fair  
 yellow loam cut  
 Same.

Mr. Geo. Fischer  
 Castana  
 Iowa

Mr. AB. Elliott  
 Whiting  
 Iowa

cut 90 -  
 Coal's pit.

cut 91 - This is  
 green loam of  
 usual type - 15 ft  
 deep, on E. side,  
 with rounded  
 nodules (benton) below  
 & small nodular  
 layer above.

cut 92 - A loam cut  
 (6 ft) with loamate  
 loam above &  
 sandy yellow  
 loam below  
 few rounded nodules.

cut 93 is across

short steep ridge.  
is about 10 ft. deep.  
Locs & nodules  
as before but  
nothing no fossils.

cut 94-

dryish, sandy  
7 ft. deep  
nothing long  
& narrow

cut 95 - Slumped

more or less.

6-7 ft. deep

across ridge  
Locs & nodules  
as before.

Fragments of  
shells.

Cut 96 = 1 in. layer  
Cut 97 = 2 in.

W

Plots 11 & 12 -

Looking S. along road  
in middle of sec. 19  
Top. 79 - R. 42

S. E. of Logan.

Shows large soft  
nODULES with no  
MUDSTURB. Snow  
would be swept right  
through. Also dry well.

Cut 98 At top of  
ridge - bright plot on  
W. Logan.

6 ft. exposed & about  
4 ft. is brownish sand -  
this was fairly  
porous.  
Few nodules.

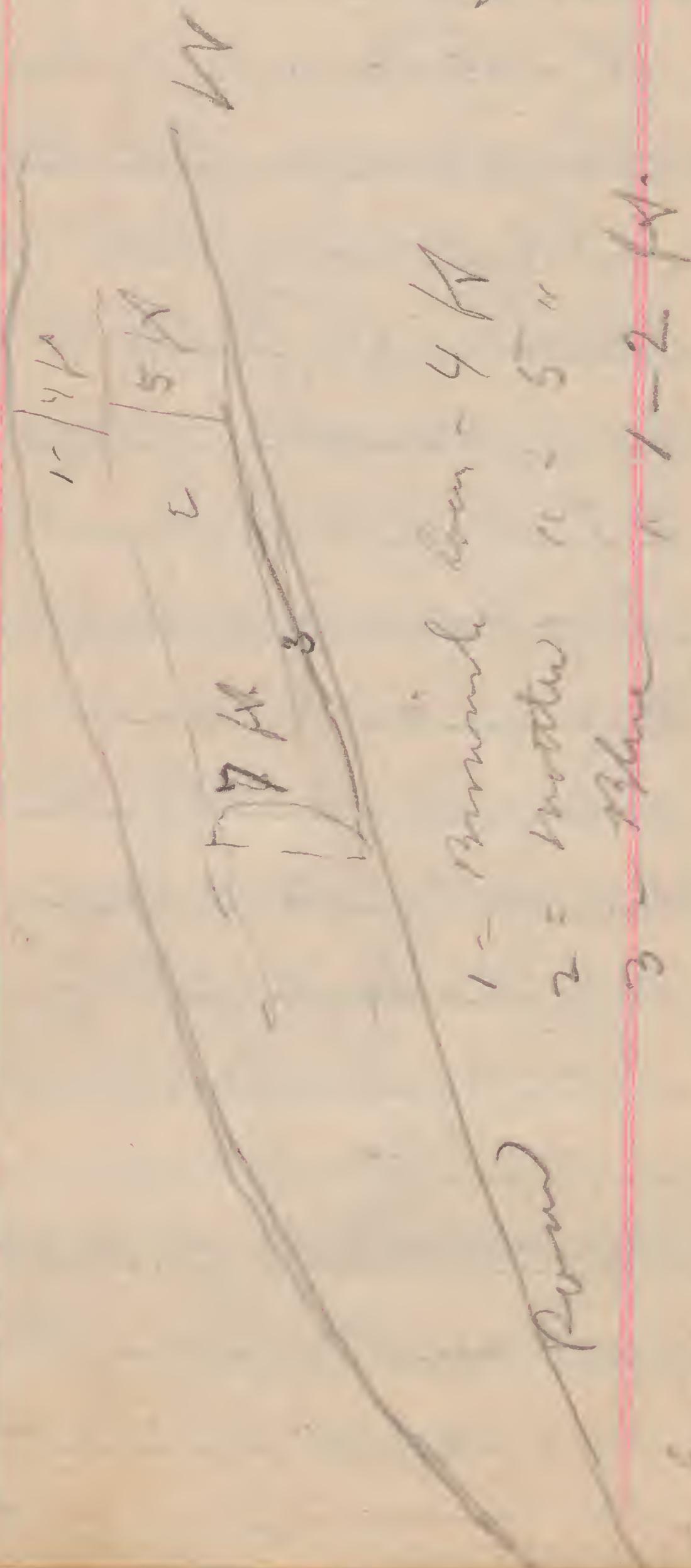
A few rounded  
nodules below &  
fragments of shells.

~~8. W. of Logan~~  
E. of the Bronx, the  
hills are not so  
high, & the surface  
is a gentle  
Kansan.

Alt 99 - 100 ft.  
(about) is a  
well, sloping  
down to S.E.  
It is about 12  
ft. deep, the  
S. side being better  
filled in where I  
made section. It  
shows 4 ft. above  
of reddish (brown  
& stiff) like that  
in cut 94.

This has no rocks  
or shells, & when  
it meets it low  
below, there are

oxidized streaks  
then even 5 ft. &  
a mottled blue &  
green layer, with  
some iron tubes (&  
then always blue  
spots or streaks)  
(See sample)



In no 2 there  
are streaks of  
redular, often  
or nearly horizontal  
(were these former  
rocks been slipped?)  
bedding and  
gentle in 2.

Fossils are about  
bed number 1 at  
3 ft from top  
of (2) at 3 ft below  
top of layer no 2  
of (3) at 1 ft below  
top of layer 3.  
The fossils are  
finely indistinct  
in both (2) & (3).  
No. 3 is a blue  
bed, with many  
& rather large  
root tubes.

Saw many rootlets  
(no numbers) about  
roots of tree stumps

(dead) & evidently  
but recently formed.  
The fossils are all frail, but  
entire, small diatoms.  
This is on top of one  
of highest points of  
ridge facing the  
Prayer Valley.

Cut 100 is on slope  
to the (down) &  
shows the two  
upper layers.

It is about 6 ft  
deep & only lay

Cuts 101 - a long  
cut along gutter  
up next hill.

Ground

Cuts 102 shows upland  
beds. Did not examine  
it, very deep

Cut 103 was  
long, 6-10 ft deep &  
but is in nearly  
everyone.

What shows is  
yellow loam, low  
lithic, streaked with  
mud, & with few  
quartzite nodules.  
Also fossils.  
It is the yellow  
loam of Bluff.

At 104 just before  
ascent of hill  
a heavy jointed  
clay (yellowish)  
(see sample) about  
6 ft thick  
Brown. Hard  
loam.

The sloped partly  
but mostly of a  
hill but the  
cut is in gather

4 cuts off side a  
ridge along which  
road runs.  
Lenses like cataracts  
on top.

Northward the valley  
widens & the terrace  
is Kansan.  
Rough Kansan  
appears S, SW,  
& W, - the bluff  
approaching.

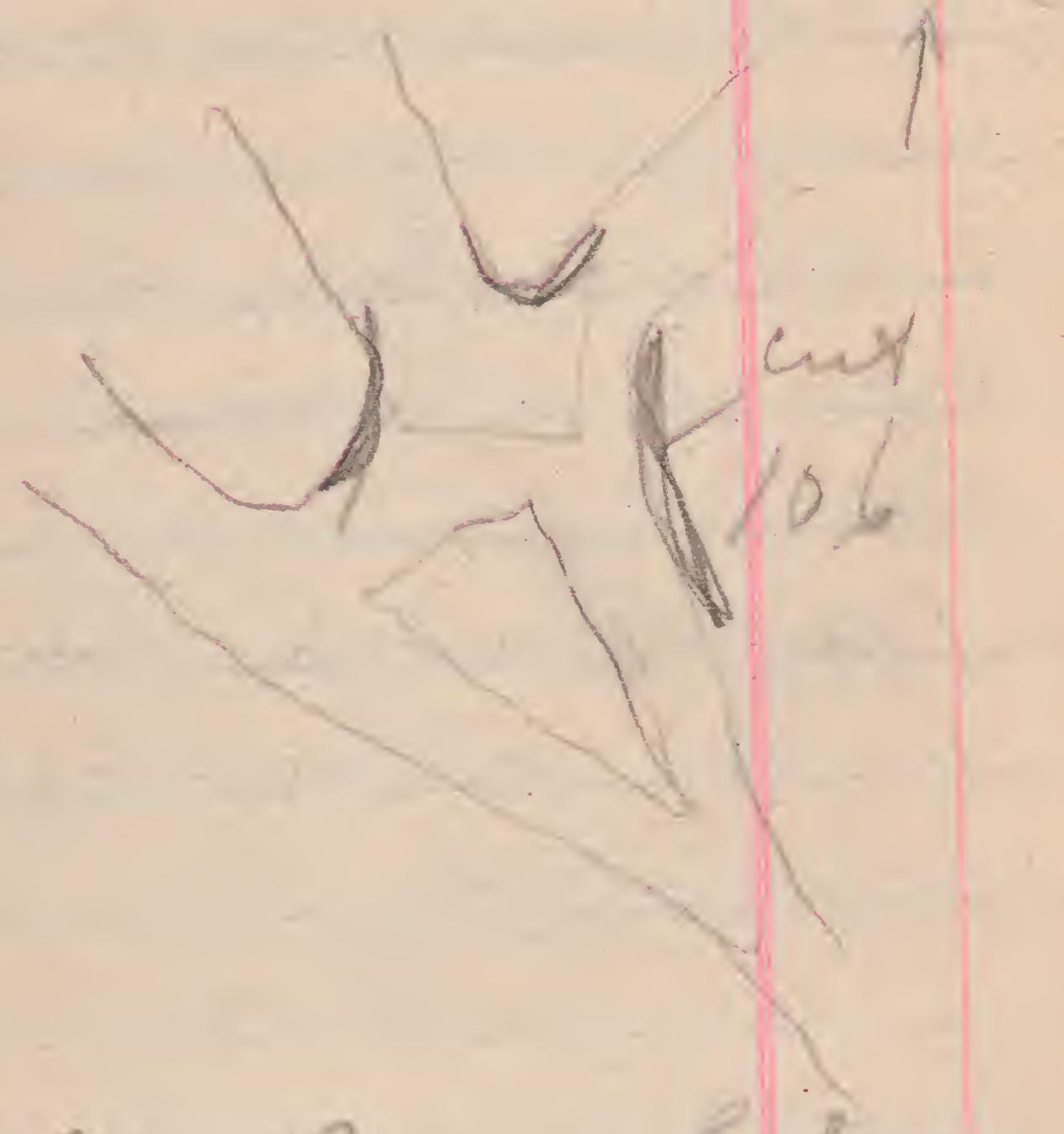
Cut 105 is up  
long, gentle slope,  
considerably above  
104.

It shows about  
7 ft. of constant  
heavy brown loam  
soil. Fossils  
scarce & scattered.  
Some nodules worn

20

below & small  
about 3 ft  
thick above.

cut 106



Hi even tho  
thin in 105 if  
anything a  
little softer  
with rounded  
nodules pink  
& purple  
large also

21

At 107 a low

bank (4 ft.)

shows blue layer  
with few tubules  
(small) & back of  
it a lesser  
layer with  
blue below) &  
yellow top

On N. side road.  
Blue layer runs  
in road.  
Few tubules

W & NW. of Magnolia  
there is a great  
valley (like Sycamore  
hollow) with  
much forest.

22

Cut 104 yellow  
green - on hill +  
did not stop

Cut 107

108 a

~~108 b~~

Thin siltstone much  
as at 99

4 ft Red shale  
up to 40 ft

24

Blue-green  
large tabular

The blue layer has  
shale, etc. The  
upper is yellow

23

Cut 110 also  
shows blue layer  
Did not stop.  
On slope up to S.

Several good cuts  
were run on way to  
Calhoun.  
(See late)

Sept. 5, 1908 (Sat)

Wrote meteorolog.  
obs. of Mo. Valley.  
Linn, Brush & Harv'd  
Tucker helped.  
Early (at 5) the sky  
was cloudy, but by  
6<sup>30</sup> it cleared, & was  
breezy & hazy during  
forenoon.

The wind feels damp.  
When I started was not  
out from 1 was in  
shade. In 2 in sun  
& almost calm. Then  
3 in shade but  
exposed to wind.

From 4 (sun) somewhat  
damp & on hills)  
in sun & breeze.  
The sun part was  
almost calm.

There was a heavy  
dew this a.m.

These are old stand-bys  
in very dry places:

*Amorpha canescens* - very com  
*Dalea* (feathery) " "  
*Liatris punctata* - com  
*Castilleja pallida* " "  
*Bontekoea racemosa* - v. "  
*Salix nigra* (sealine) " "  
*Andropogon furcatus* " "  
*Peltandra canaliculata* " "  
" *violacea* " "  
*Schizandra* - com "  
*Verbena stricta* " "  
*Linn. subcordata* quite "  
*Lycopodium pinnae* " "  
*Gerardia villosa* not very  
*Gentianopsis asprella* rather "  
*Aster sericeus* " "  
*Heuchera villosa* quite "  
*Solidago villosa* " "  
" <sup>more frequent in</sup> *Balsamum* (shrub)  
*Aucuba cylindrica* - rather "

26

27

There has been almost  
no breeze at no. 2

during forenoon &  
at 1 & 3 it was well  
reduced by noon.

At 4 o'clock both  
sun & wind worked in  
to pan 2 pretty well.  
The day has been  
remarkably hot &  
with not strong wind.  
The leaves in Dryden's  
hollow are scarcely  
disturbed by breaths  
of air 4 (obs & sun)  
were calm all day.

Flowers are melting  
both in bare slopes  
& in woods (esp.  
near border)

789.65 at 4:38 PM

28

9/5 '08

VV

Photos 13+14 - deep snow  
near 2

Photos 15-16 - heavy  
view of scant ground  
covering in snow.

Photos 17-18 - about 6

" 19-20 - Body,  
heavy snow

Photos 1+2 - Looking  
S. from near point 3.  
Line Pines followed  
& willows on top of  
ridge.

Photos 3+4 - Looking  
N. from Sta. 3 to  
Sta. 1.

(See ridge between  
Anydis & London)

Photos 5+6  
Looking E of S.  
across station  
4 old & new.  
4 old in near  
center of field or

29

ridge in foreground.

4 (new) is just in front  
of old to right  
of black shot (cow) &  
shadow beyond it.

Photos 7+8 <sup>other</sup> looking  
S. from station 1  
town tip ridge  
on which point 3 is  
at front.

Photos 9+10 Looking  
across border into  
woods - town station  
2.

Between two old  
trees is white spot  
= Calf captured  
Piglet is in line &  
can still deeper in

Left Mo. Valley  
at 10<sup>50</sup> P.M.

Council Bluffs  
Sep. 6-1808

Set up abbaston  
at 10<sup>20</sup> —  
station as before.  
1 - 140 ft above valley  
on dry ridge  
between 8 + 9 acres.  
2 - On top of same ridge  
3 - 6 ft below top, in  
timber  
4 - About 20<sup>2</sup> ft below  
top, in deep hollow  
5 - 235 ft. from  
6 - Over 300 ft  
(below top) in  
scanty, timbered  
ridge.

Day pleasant,  
cold this, breeze all  
day, but not  
strong. In shelter  
places very warm  
3 & 4 were very dry.

Ridge below station  
2 & 5 shows

fine brds;

Polygonia

Rhus glabra

list:

~~Chrys~~ glabra

Viburnum stricta

Polygonatum multiflorum

Metaphis alba

Panicum capillare

Bouteloua racemosa

Antennaria leptophylla

Actaea rubra

Symplocarpus

Polygonatum

Vaccinium novae-angliae

Ostrya virginiana

Drysdalia

Franseria

Andropogon furcatus

Few ~~holodys~~ <sup>renalis</sup> (silver)

Few Monarda salvia

few Zizaniopsis miliacea

Few Salvia (feathery)

Few Rubus hispida

(Same as last)

Few Osmunda

Few Dryopteris (purple)

Comandra umbellata

not <sup>proli</sup> Erythronium - more erect  
common Cypripedium trifoliatum

Between station 1/2  
on dry (S. & S. W. slopes)

- W *Lathyrus palustris* (as far as E. as W.)
- W *Salvia fuliginosa*
- W *Ceanothus* —
- W *Amelanchier canadensis*
- W *Schizanthus*
- W *Lycopodium*
- W *Desmodium* fresh
- W *Petalostemum*
- W *Rubus hispida* —
- Corolla *Chamissoi*
- W *Gentian* (purple)
- W *Solidago longistylis* (var.)
- W *Veronica alba*
- W *Elymus* (large)
- W *Hieracium rigidum*
- W *Rhus glabra* (few, small)
- W *Aster sericeus*
- W *Polygonum* —
- W *Heuchera* (few)
- Common *umbellifer*
- Castilleja pallida*
- W *Bryonia alba*
- Petalostemum
- W *Geum urbanum* not seen
- W *Aster glaucescens*

Between station 1/2 on N &  
new slopes (all more moist)

- Amelanchier canadensis* &
- Ceanothus* — are larger &  
fireround. *Rhus glabra*  
also larger, found  
a small colony.
- also all shrubs W
- in opposite form
- Liatris scariosa*
- (few October only)
- Young *menispermum*
- Young *Soft maple*
- Rosa* —
- Young *white oak*
- S. W. & W. & both  
woods are open
- the S. a little  
more
- Ostrya virginiana* (few)
- Small *Rubus* present
- Desmodium canescens*
- Schizanthus* very  
common
- Eriogonum* (few)

Woods, E. of St. Louis + 5

monilia scabia  
 Quercus rubra  
 Ribes glabrum  
 Syringa  
 Vitis rotundifolia  
 Umbellariae (not by me)  
 coarse sedge (wood)  
 Carex (not baled)  
 Chrysanthemum  
 Menispernum canadense  
 Ribes missouriense  
 Xanthoxylum americanum  
 Smilax herbacea  
 Ostrya virginiana  
 Crataegus mollis  
 Picea striata  
 Fraxinus  
 Green ash  
 Ulmus fulva  
 Ulmus americana  
 Juglans nigra  
 Prunus verticillata (not esp.)  
 1

Erythronium americanum  
 Hamamelis virginiana  
 Geum (big bran) (less)  
 Multistemma (slender)  
 Aster (cordifolius?)  
 Robinia pseudoacacia  
 Small shrub (in sun) (less)  
 Silia nummularia  
 Gymnocladus dioica  
 Salix villosa  
 Cystopteris punctata  
 Smilax, Elymus  
 Viola canina

There wood also shows  
 great undergrowth  
 especially toward the  
 edge.

Half way below station 1 & 2 is a big wash at hole next to S. pitch - about 6x10 ft and 9 ft deep, with an offshoot channel leading down obliquely to S.

Moss of benthon is flat.

Schizoneuradum is the common bunch grass on the bar slopes of which bits are grown

This has been a fine day, with a gentle breeze (sometimes reduced to mere

puff & gusts) for the view.

The sun was quite warm, & the sky perfectly clear. I saw no sign of a cloud all day. It was a little hazy in the A.M. & also in the evening, the latter from smoke.

Sep. 7. 1908 (Mon.)

Commenced with cut 48, a low cut along street. It is only a lower cut of 50, & includes 48, 49 & 50 are sections of the same part of ridge; - practically one. The base is yellow, with some reddish (brown) below. It shows clear banding following contour of slope, - in weathered glaze.

Took a few shill.

Cut 50 is remnant of old ridge. The base of cliff has an altitude of 85 ft. (above tanks) & the bank is 33 ft. high.

The upper 3 ft. is

lobular, with a few small nodules.

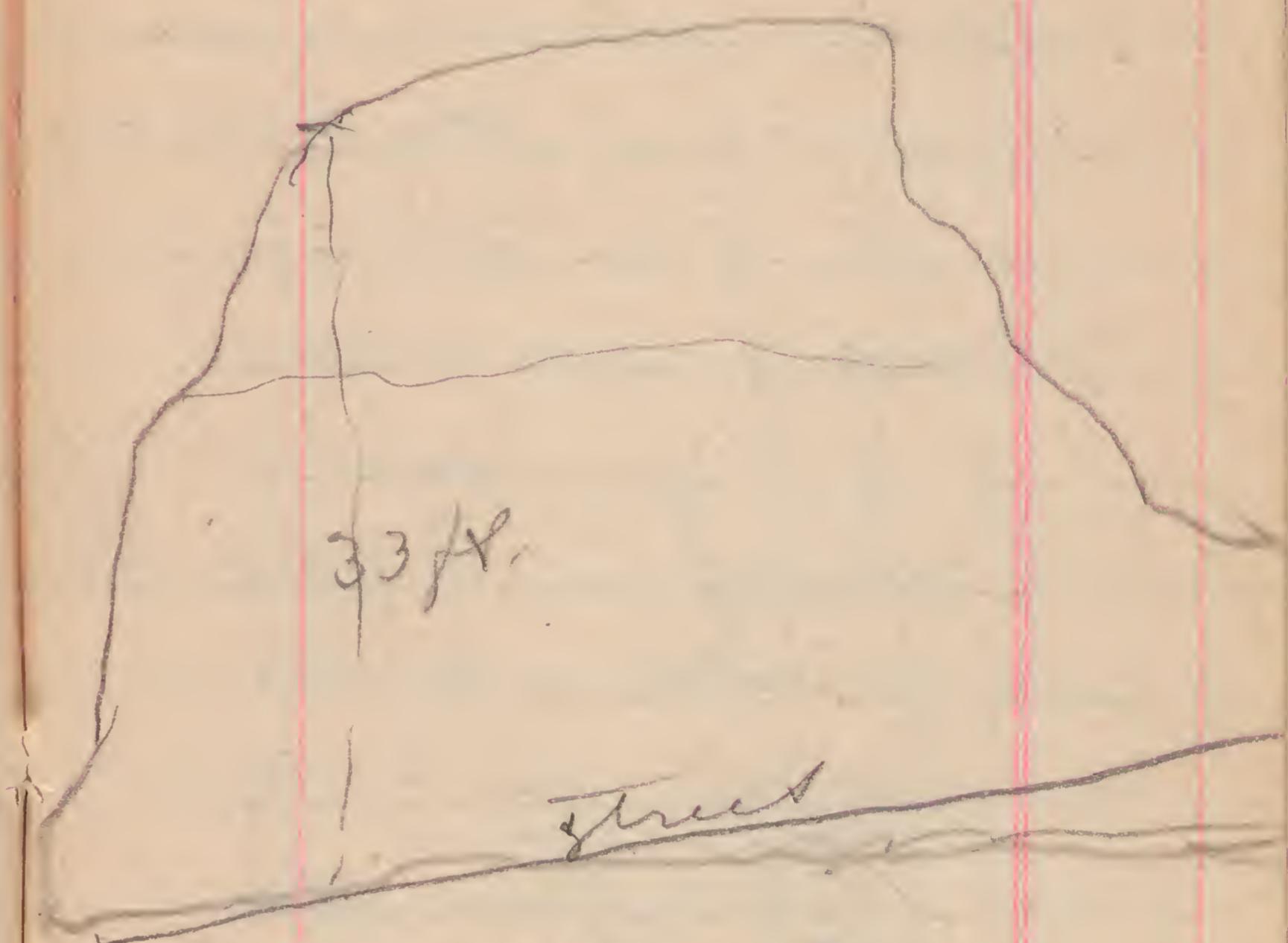
The remainder is compact yellow limestone with shells, chiefly in upper part (here as in very thick deposits generally the lowest part not fossiliferous (usually upper 10 to 15 ft. has fossils.)

There are rounded nodules, - these rather small, - scattered all through.

The lower part shows much local (i.e. locally sublithic) lamination of the usual type.

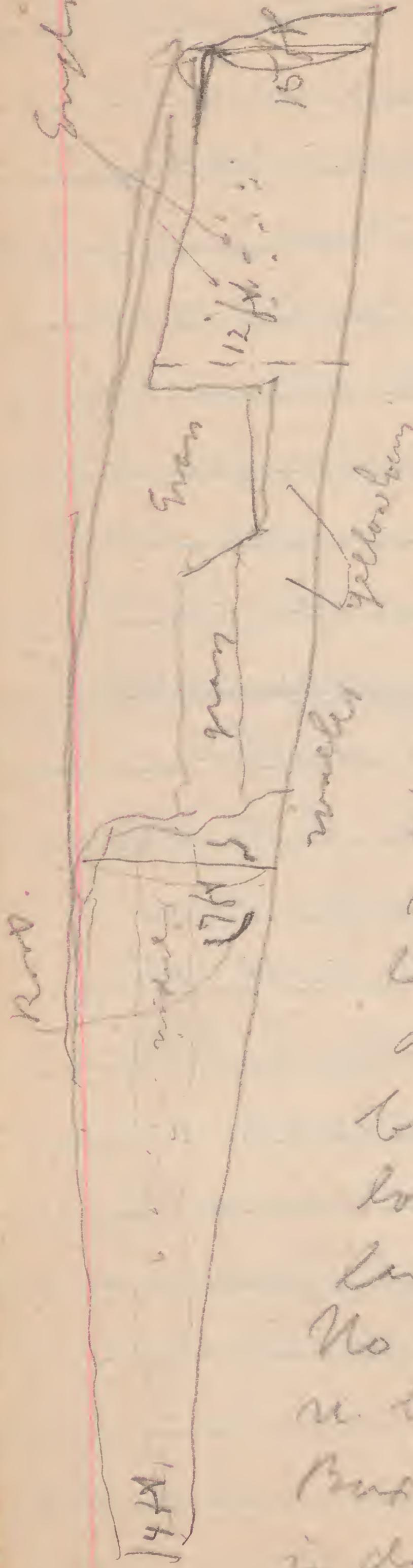
Vertical cleavage is also distinct here, - water & quarry, indicated by wots.

nodules occasionally rounded, & elongated (or oblique) streaks of lime occur



✓

Photos 21022 - looking  
all at cut 50



This, and  
shows in  
its N. half  
a layer of  
yellowish  
soil 2 to 3  
ft. deep, with  
a brown shade  
in lowest part,

Below this is  
the usual  
small wooded  
layer 3-4 ft  
deep, showing  
below into  
beds with fewer,  
larger woods  
so forming in  
part,

Brn skin with 2 in  
in diam. after 6 ft.  
below top.

Play English Game  
below in upper part of

St. Louis.

Lovers in <sup>part</sup> in 50  
Dwells few, scattered &  
chiefly in <sup>low</sup> <sup>dry</sup> <sup>open</sup>  
of S. end.

The same year 51  
in same.

by 3½ upper (middle) part <sup>in</sup> (brown).

The small ~~at~~ <sup>with</sup> Abonki  
51. (call it 52) is  
only about 6' 4" high  
at S. end <sup>impost</sup> & at N.  
end.

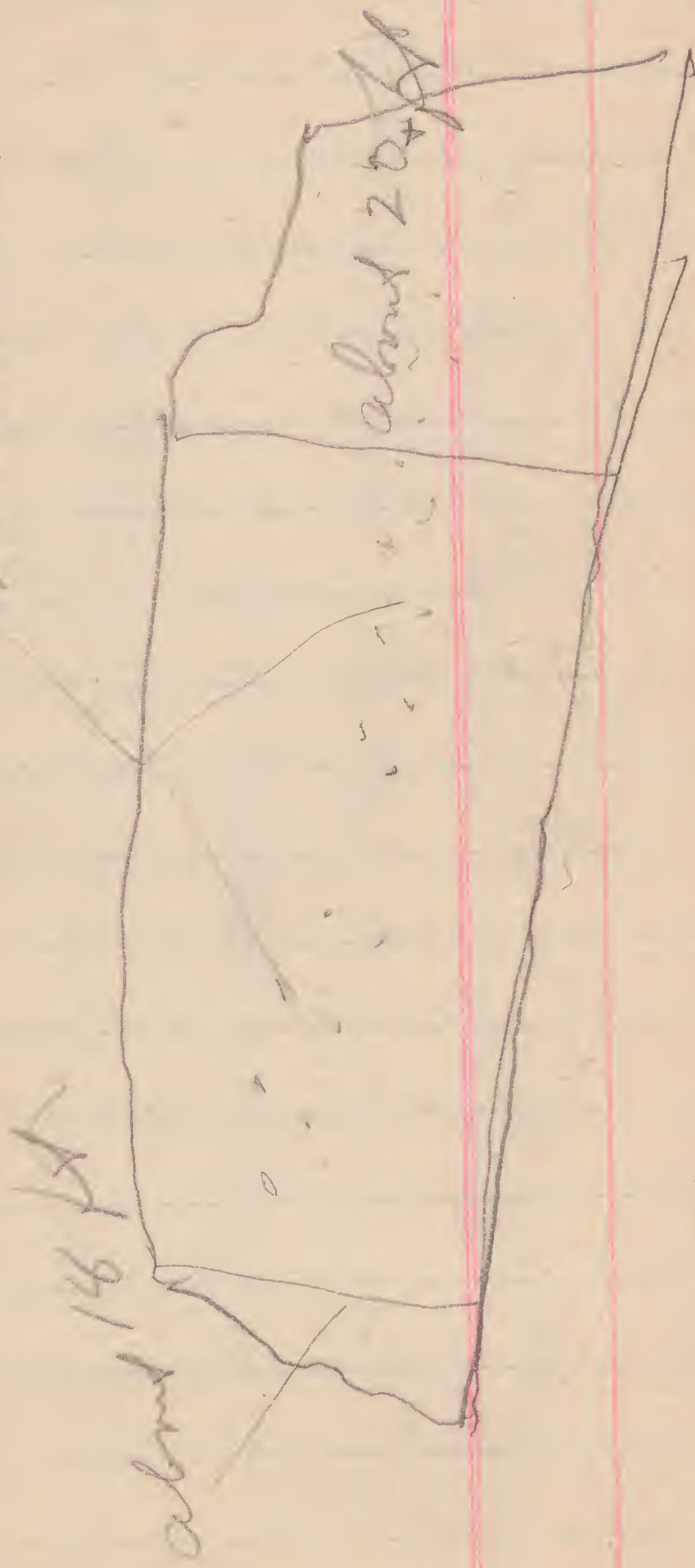
It shows rounded  
bumps at top &  
I could see no  
fossils

Cut 52 - no parting  
Brown shale & sand  
to 8-10' deep -  
yellow loam - 5'  
not saline



Cut 56 is wider  
than cut 53.

Spanning line



Cut 56 shows thick  
carbonaceous layers.  
Lover is soft, ash-  
y shale laminations  
parallel with surface.  
Fossils are scattered  
through lower part  
(within reach).  
Nodules are very  
few & scattered.  
Rock sample of  
fossiliferous layer is  
about 12 ft from top.  
This cut is about  
100 ft long & drops  
to south about  
15 ft (base along  
road).

57, 58 & 59 show yellow  
loess, are back  
in yards.

60 & 61 are cuts  
made by grading lots  
& are very variable  
in depth, but  
all along the ordinary  
yellow loess is visible.

Cut 62 is the sand,  
and is only about 10  
ft. deep.

It shows yellow loess  
with distinct branching  
scattered nodules, &  
I saw no fossils.

From base of 63 to  
top is 85 ft., and 8  
75 ft. from top to half  
on S. side.

63 shows on part  
have loess below -  
with distinct branching  
in much of it.  
It is all yellow, but  
some iron tubs near  
base. Very few  
lime nodules.  
Few shells, probably  
mostly from above, -  
I made no note  
at base.

Cuts 64 and 65 are opposite  
side of same excavation

52

55 h

75

53

in lake and 66

54

Curve 66

55

Curve 67

556

57

5-0

147

July 26

26

Schmid

Sept. 8, 1906 Chrs

Parker, Am

$10^{10} \text{ cm}^{-2} \text{ s}^{-1} \text{ Hz}^{-1}$

## *Magnolia*

Cat. # 115. ~~in a fine hill~~  
Key Collection.

It rises from 110 to  
140 ft., and is from  
3 to 6 ft. deep  
at S. in the blue.  
Lava with prominent  
tubes & faults is  
distinct, but can  
be traced up hill  
to about 120 ft. alt.

The higher rock  
end is a wall  
about 5 ft. of blue  
limestone on top  
with

The stuff above it  
is brownish greyish  
whole being hairy

Domestic (reindeer) snowshoe hare

2 3 4 5 6 7 8 9

24

— 5 —

3 ft of yellowish brown (see sample)  
above  
below  
white sand 2 ft  
yellow  
with white  
calcareous streaks  
yellow  
white sand  
with white  
calcareous streaks  
3 ft of yellowish  
brown (see sample)

all from W. mill

a Sample of blue limestone  
1 1/2 ft. from top of  
limestone.

b Sample of red limestone  
over 1 1/2 ft. above  
blue limestone.

c Sample of nodular  
limestone 2 ft. from top  
earliest fossils in  
blue limestone on Emmett  
road.

b & c are evidently  
like blue limestone.

d At 120 ft. from  
a soft, friable &  
yellow limestone appears  
below nodular limestone  
& below distinct  
nodular var. This  
yellow limestone is here  
probably 4 ft. thick.  
Nodular limestone above  
this.

Photos

13 & 14

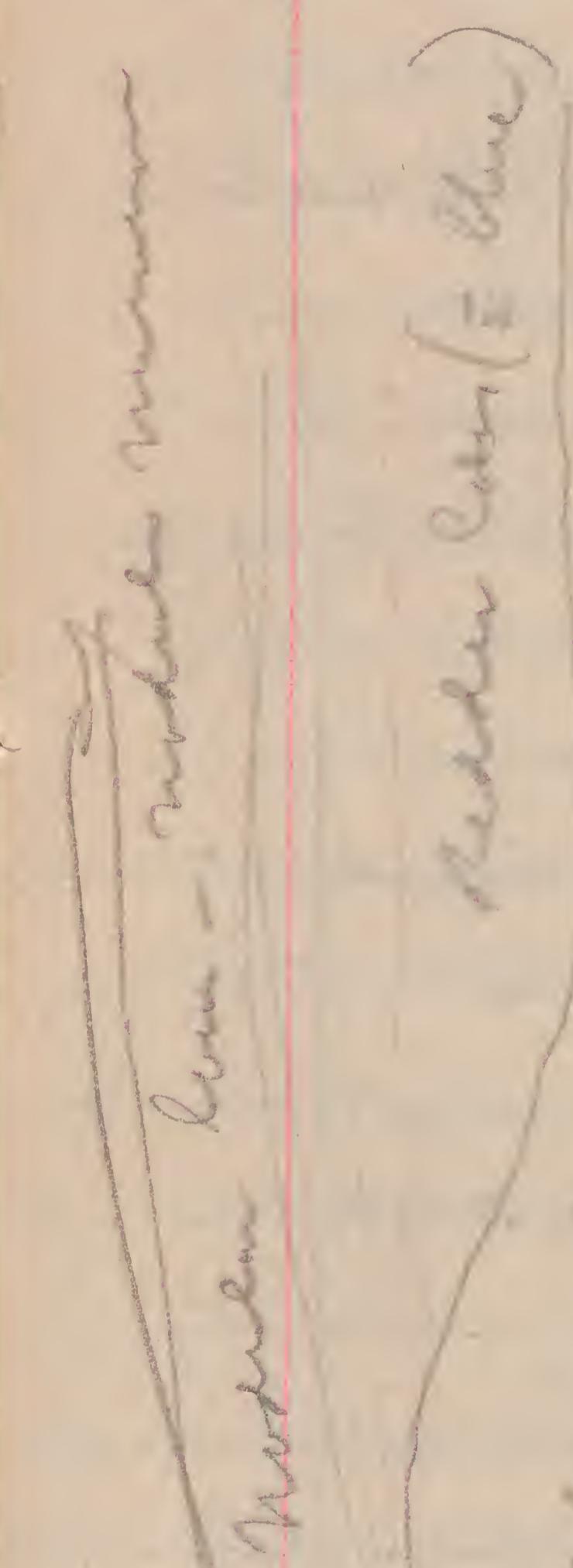
Looking at S. end  
of cut 115 on  
W. side.

115

61

Collected

5 Spec.



Found a ~~few~~ fossil  
in boulders layer at  
130 ft. point - It  
seems also to weather  
into yellow boulders  
below, as shown  
by fragments

Found fresh shell  
a short way in  
the oak wood  
near the hill  
above cut.

Top of hill over  
200 ft.

In groves along the  
new wild plum  
brush

Red sky

Black cherry  
Crabapple bush  
Green ash.  
Japanese maple  
Red grape  
radish (annual)

*Rubia cordifolia*

## Signatures

Brussels

John Day

*Carthamus*

~~Book Club~~

1860

1920-21

1880-1881

John

2015

A horizontal strip of a traditional Japanese pattern, likely a textile or paper, featuring stylized pine branches and blossoms in purple and black on a light background. The pattern is repeated across the width of the strip.

Walter C. Oberg

Sept 20th 1896

Aug 2 114 65

✓ *Caronitha rufa*  
225/1

It is 9 ft deep on  
gentle slope N. (up)  
& near higher pt.  
a thin soil

See sample of tree  
Cedar 6 ft. below  
Tip. looks all  
spelunk. Saw  
no needles.

Forrest, very few get along

Lamination of base  
in lower part.

Believe me, when  
I may be.

1870-1871

yellow, long

The lower portion  
has three patches  
of anthers of brown  
spots, very  
compact & see

Sample taken at  
7 feet (1.1 m)

Sample of yellow sand  
taken at 62 ft.  
from top

The west knows all  
this & the Empire  
is anxious

Cut 113  
Cut 1 runs  
down hill to N.  
at base of baron.  
read 180. At  
top. 285.

Cut runs nearly  
all way down  
foot of hill.  
The cut shows  
blue layer up  
the hill, following  
contours, except  
at base where  
laminations run  
up.

Blue is very distinctly  
laminated. It has  
large & numerous  
tubes below, but  
upward they become  
fewer. It runs  
abreast into yellow  
layer of which  
7 ft. thick run

top on E. side.  
~~Took my sample~~  
from W. side  
a  $\frac{1}{4}$  of the way down  
on E. side - off  
of yellow layer, but  
at bottom brown &  
streaked with red &  
blue below  
On E. side there  
seems to be a  
change of the  
yellow layer to  
very heavy streaked  
brownish layer.  
No nodular layer  
apparent here though  
upper layer is lobular.  
Sample apparently  
2 ft. from top & near  
top of hill.  
Sample of blue layer  
near foot of hill  
5 ft. deep

Sample of *Brachia*  
 from the way up  
 hill to the  
 mouth of bank  
 somewhat almost none  
 from tubes from blue  
 water near foot  
 of hill.

None from blue  
*Brachia* was  
 from in tube in  
 soil (in sph.)

From shells in  
 water near soil 3

11/3

6-mile and

cut about

A long cut  
 (300-400 ft.)

blue water at  
 bottom of  
 cut  
 blue water  
 at  
 very base

112

Cut 6 in a  
small cut 5  
ft. deep, & showing  
blue loam, with  
a little transition  
stuff & then about  
3 ft. of loamy loam  
with nodules.  
Iron table not  
seen.

Tinies.

Iron tubes again  
more plentiful  
downward.

Only a short distance  
across toward N.  
of road 113

This cut is in a  
low ridge between  
two waterways.

111

Cut 7 is at embankment  
& extends down to <sup>just</sup> the  
level of bridge over  
creek (a water course)  
It is blue loam with  
many tubes & some  
nodules & fine  
iron in tubes on  
fresh roots.  
Blue loam extends  
up to brown soil  
(Ox 2 ft.)  
4 ft. of blue loam  
reported.  
On top of bridge  
swell is 2. The  
surface indurated  
(Brownish) also  
is now.

cut 110 in on  
N. side sloping

up from creek  
bottom level of  
110, & it rises  
over low bridge  
In deepest part

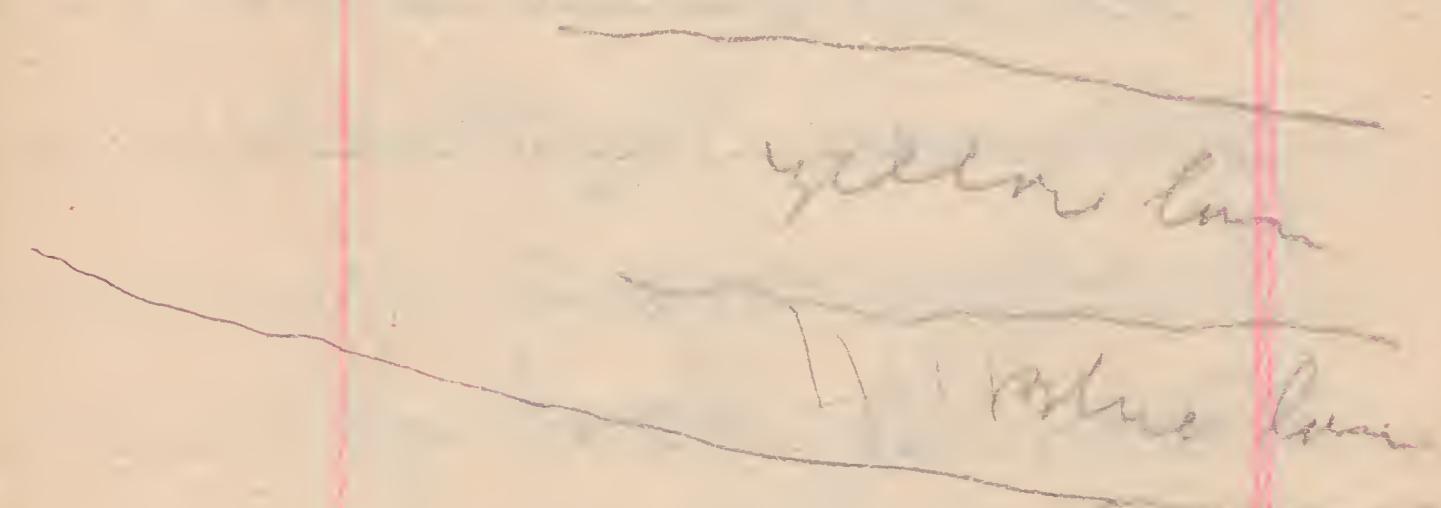
12-15 ft deep  
Blue loam with  
many iron tubes  
esp. below &  
some nodules  
(like in 111)  
& forms all  
bright.

Two laminations  
only top strong  
2-3 ft of yellow  
moderately loamy  
Roots up &  
running through  
See photos 21 & 22,  
looking W.

Photos 23 & 24, looking  
N. up cut 110

Lamination very distinct

Photos 25 & 26  
looking at N.W. part  
of cut 109



Look sample of  
green loam 4 ft from  
top

Blue loam 1 ft  
from bottom

109 is on higher  
rise

108 is higher

Cut 116 - 12-15 A

dust on N. side

7 ft on S. side.

Blue layer (with  
some "transitional" stiff  
fossils).This is still well  
up near top  
Reading 290Runs to foot of  
hill. Washes  
out in N. side.Shows laminations  
clearly.To right of road  
beyond foot of cut  
116 in field I  
saw ridge with  
cut steps - they are  
here exposed

S. W.

Cut 117

A small cut (2 ft  
deep) beyond cut 116

on little ridge

Shows yellow layer  
with few nodules+ weathered nodular  
layer.Saw no fossils but  
didn't look  
very carefullyCut 118 - on slope  
W. (down) is  
similar.Saw fragments  
of shells.Cut 119 - similar  
5 ft dust

Yellow light layer

Few sand nodules

Upper nodular layer

Fragments of  
shells

120 a small  
cut 5-6 ft. on  
level of creek  
bottom - shows  
blair loess  
not with tides  
but with horizontal  
strata (mainly)

(Bottom man)  
115.

A large project  
5. above mouth  
of Allen cr valley  
shows cuts - tides  
& yellow loess

121 & 122 are two  
exposures of yellow  
loess due to  
tides

123 is a cut  
where road comes  
over ridge.  
yellow loess.

Topography.

The region N. of  
Calhoun & to Kughi  
is rough Kansas,  
with timber in  
the pockets.  
From Kughi  
along Allen  
creek to Black  
it is very rough  
except for the  
pretty valley, &  
heavily timbered  
on the slopes,  
especially on  
the south side.  
On the N. side  
near outlet of

valley to Kinni  
bottom a

ridge ridge S.  
+ shows cut steps,  
+ yellow loess.  
The wind sweeps  
up this valley +  
forms the yellow  
cut step ridge +  
the yellow loess  
at cut 112, 118.

Sep. 9-1908 (Wed)

Spent night at Little  
Town at Bonney Hotel  
("first-class").

Went S.E. to Waller's pit -  
cut no. 124.

Barrowing altitude above  
flat.

Saw (cones) up to 20 ft.  
(Limestone & sand)

Then mixed sand & yellow  
sand (water stratified) just  
like present Prairie  
bars - for about 15 ft. H.

Took sample at 25 ft.  
(also a rock of sand  
from about same  
place.)

These layers of sand  
of sand alternate  
& mix like in sand  
bars.

an irregular layer  
of very large limestone nodules  
(6-12 in. <sup>long</sup>) appear  
above this, at 35 ft.  
(This is probably lower  
level of Kansan.)  
Other large nodules  
appear above.)

Pebbles - sand (possibly  
Kansan) appear at  
to 45 ft. & then come  
several feet (6-8 inches)  
of a heavy, much-re  
sample taken at  
48 ft. -

Upon this often  
in hill -

Other specimens show  
further down (S.) they  
are more sand like.

At 25, the sand, fine  
sand, coarse sand &  
very small pebbles  
abundant.

+ sand

The gravel parts  
contain sand  
concretion, some  
lime concretion (very  
white & soft) & I  
saw scales of what  
appeared to be a thin  
shale

This part has too  
much yellow. seems  
now to be good for  
pig.

(Bar. on flat 29.1 -

On N. slope (on ridge)  
this cut shows a  
talus, then about  
6 ft. of reddish jointed  
clay, with lime streaks  
& lines & one at  
about  $4^{\circ}$  45 ft. a distinct  
layer of large nodules,  
above this the

material runs with  
yellow layer of  
grading soft & light  
type, - formula  
(in yards)

I could not examine  
concreting layer, -  
slumped & rounded  
a little,

Loess evidently many  
feet. Shows much  
of iron as well.

The well at R. R. Wallen  
house (open shaft)  
is 85 ft. dry & found  
& pipe about 15 ft.  
more & a few no  
sand or gravel.

Wallen's well is 60<sup>66</sup> ft  
above flat.

Cut 125 ams  
all the way down  
from gravelly hor  
to gate near bottom  
& shows 15-18 ft  
of fine yellow soft  
laminated loam -  
no nodules, &  
fossils scattered  
few, - the loam  
being typical Miami  
river loam.

Mr. Wallace says  
he had gravel pit  
opened - about 60 rods  
S. of spring - it shows  
about 16-18 ft. of gravel  
Some of this is streaked  
with black. He struck  
water just a few ft. below  
level. <sup>red</sup> He says now  
& now water is only  
about 1 ft.  
He found no fossils with

This pit is in lower  
of two beds - the  
higher being 5.  
It is not in high  
bank.

From living shell  
in woods my 125  
ams dis a  
+ probably of  
Amphientom (small)

Wallace says the  
gravel runs up  
in hill & that  
the point of his  
well was driven  
into it.

It is about 95  
ft. deep.

Cut 126 rises  
only 5 ft above  
level of flat on  
S. side (on gutter)  
& N. side is about  
10 ft. above flat.  
It shows about  
12 ft of fine gravel  
Kanawha at S. end  
& about 7 or 8 on  
N. side. No loess here.  
This is a local  
terrace. Loess little  
rise back of it.  
Murry hill at fork  
of road  
It shows a local  
rounded ridge extending  
in a curve to S.E.  
& running from it  
to fork of road there  
is a Kansan drift  
ridge, of young clay  
with some fine

gravel &  
✓ Photos 27 & 26 show  
Murry hill viewed  
N. of E. from lower  
part of top gravel into  
Photos 29 & 30, looking  
S.E. show N. side of  
ridge S. of Murray  
will each valley  
marked by a low oak  
grove.  
Photos 1 & 2 show  
Kanawha ridge (Murray  
hill to right)  
from side S. of  
road, which is  
also Kansan.  
Photos 3 & 4 - looking N.E.  
at Murray hill from  
gravel ridge S. of road.

88  
from all white sand  
Ottawa River

Plants on Kauka  
sand, just N. of  
Little River

Isanthus caeruleus

Ipomoea

Solidago nemoralis

" (sulphur)

Enkeliopsis

(Cirsium tuberosum)

Pratia anomala

Aster oblongifolius

Dianthus c. (S. Hill)

Chrysanthemum

Verbena stricta

Hediondilla nemoralis

Liatris punctata

Desmodium -

Petalostemum repandum

Symplicia ciliata

Rosa -

Aster novae-angliae

" exiguus

Aristida longiligulata

Andropogon furcatus

(Sorghastrum nutans)

89

Ottawa Group -

Hediondilla anomala

Erigeron canadensis

Panicum capillare

Enkeliopsis (vernis)

" (vernis)

Amelanchier alnifolia

" arachnoides

Osmunda cinnamomea

Polygonum perfoliatum

Plantago

Camassia -

Chrysanthemum discolor

Panicum (long)

Kuhnia ciliata

Scirpus virens

See accurate list

The gravelly drift  
is shown on ridge  
S. of road to a  
height of about  
65 ft. above road,  
which is here on a  
little swell above  
bottom (probably  
25 ft.)

The gravel ridge  
shows 4 steps in  
heights, with  
alternating as high  
on opposite page

✓ Photo 5 & 6

Very till  
cutting out  
road  
blue  
water  
bottom  
bedrock

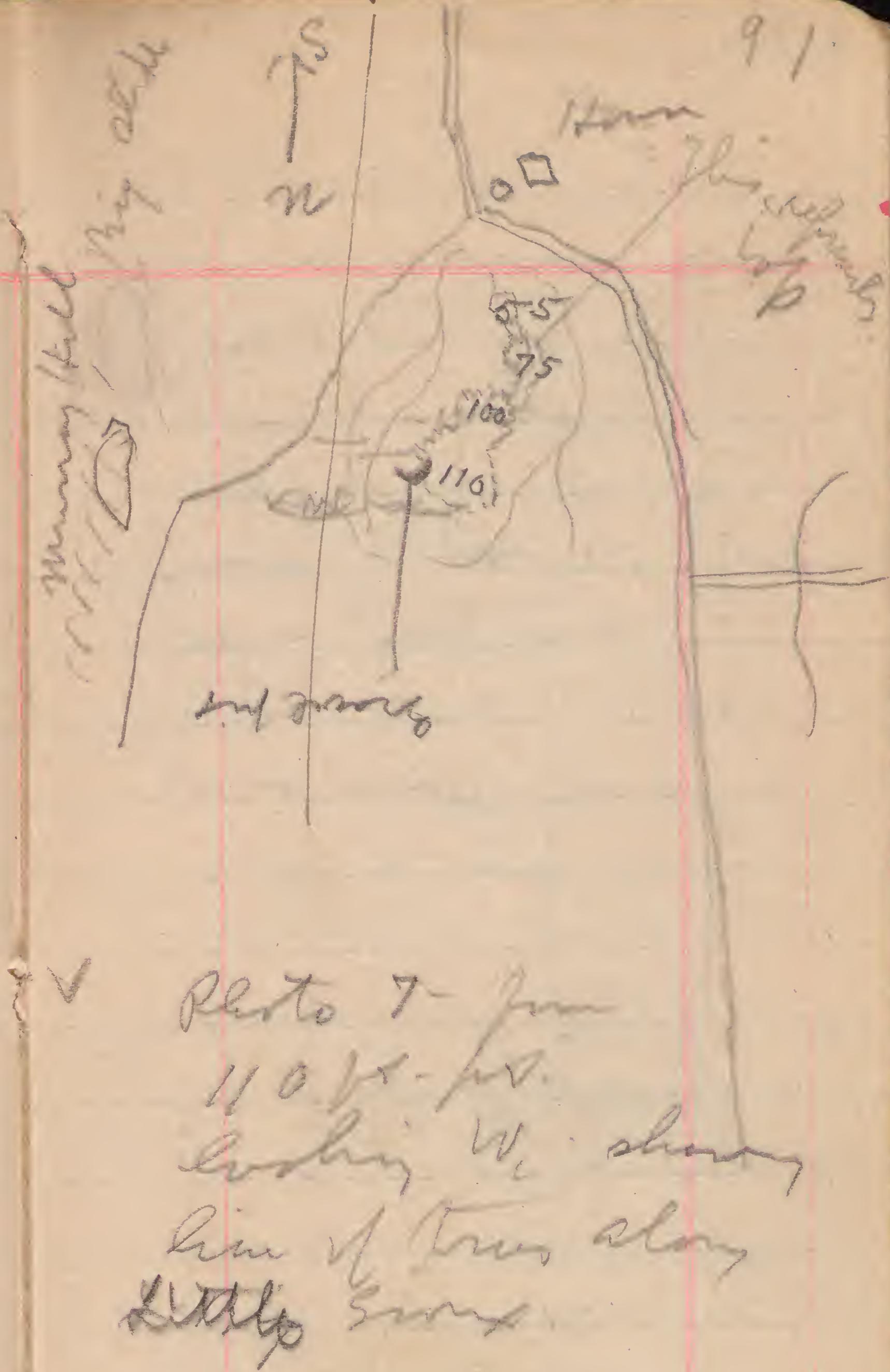


Photo 7 - fm  
110 ft. pos.  
looking W. showing  
line of trees along  
Little River

93

Card 31

Quintessential

1-2 ft. soil, etc.	
1/2-2 ft. fine sand	
1/2-2 ft. fine sand	2 ft. fine sand + fine pebbles
	fine s.
	dry (dark) fine pebbles
ground	
	3-4 ft.

This is all  
with regards to

Empress Meade

June 3 1961

large redone  
Sandy which  
was to be  
held

6 1/2 S.E.

44

Zhu's

in and

186

186

1

Cut 127.  
where road runs  
right along  
Little Dixy, &  
cut was made  
wide & a 2  
sle up to 10  
ft. of blue  
pink clay &  
pebbles & few  
boulders shown.  
This is Kansas!

Cut 126 great  
cut in bank of  
Little Dixy run  
to line.

The road is here  
full of boulders.  
There are three  
sections to this  
great cut, a  
really three  
distinct cuts.  
I will call

south face 128, and  
129 & south face 130.

The road here is  
at least 20 ft  
wide &  
at both end of  
cut (is at 126 &  
130) it drops a  
little.  
This was cut out  
of bluff.

And 126 shows  
fine weathering, &  
again sand & gravel  
run mixed.

65 ft.

48 hours

22.72  
22.72  
etc 129 2

etc 129 2

2-6 4.1 miles

14 County road

inner row  
74.8 ft.

Salter

Count with  
750 double track

following bridge  
Tob. plots  
etc 5 in.

and bring to this of eastern train

Woolly mink ch

15 ft. common line

middle  
soil  
on it gravel  
6 ft. gravel  
and

128  
22 boxes

25 ft.

198

a block of sandstone black  
7 1/2 ft. 2 ft. 2 ft.  
Chamomile

with black streaks

Kansas

99

15 ft.

6 ft.

Very silty

Coralline shale

Sandstone

9. low cut 128

10. Kansas

Very

11. Volcan

12. sandstone  
greenish  
11 ft.

13. brown  
8 ft.

14. brown  
8 ft.

50 ft.

65 ft.

100

The lower part of the limestone block is made of 128 coarse pebbles. It is only a sand conglomerate limestone (base) which in streaks & bands in the Kanner joints clay.

At 15 ft a band of sandy mud with Sphaerularia, Planaria, Pivularia. This is at highest point of road opp. cut 128 where it is 25 ft above sea level. Above this at 20 meets a fissile clay & above that

at about 5 ft higher is a red limestone see sample top of cliff is about 70 ft above & all to top is Kanner joint clay with a few pieces of large shell stones.

At 10 ft is a band with Corals - just above 128. See sample.

✓ Photo 16-12

Looking N. at cuts 126, 129, 130.

March 12 6

My steel band  
is about 13  
ft above sea.

5 ft high  
is white  
clay  
which runs  
to sea about  
20 to 30 ft.

Then red marsh  
& all set up.

Kansas.

(about 35-40 ft)

105

~~Pisgah~~

106

Sep. 10 (Thurs.)

Cut 139 is 15 ft

deep & on side of hill  
where road cuts into  
E. side.Is thin limestone  
light yellow layer with  
few rounded nodules,  
horizontally (in section) red  
lim. Traces few.The upper white layer  
is not very distinct here,  
but shows in smaller  
cuts nearby.Other smaller similar  
cuts appear further  
up the slope along  
road.At <sup>140</sup> B, the road forms  
an high (steep) point on  
side slope to valley  
cut here (on E. side)  
is about 12 ft deep  
I like 139 better for

107

Sec. Regent  
cut 141 - Regent's  
grave pit

Base = 0

Base of pit = 8 ft

Top of gravel = 38 ft.

Mixed blue and white

pebbles, mostly sand, etc. 8 ft

Then red sandy stuff  
about 5 ft.

From this pit  
shells, and the  
same chunks of  
sandstone as in  
cut 128. Also  
bits of conglomerate, etc.  
Of the very argillite  
stratified white sand  
below about 6 ft.  
This is horizontally  
stratified & not  
cross-bedded like  
upper part.

Took sample of white  
sand.

Photo 17 - big boulders.

108

Light bluish gray (Kansan?)  
Reddish brown, later  
like in Henry bed

Red

gravel

Or mixed argillite  
sand, much shales  
below in shales,  
well sorted sand,  
blue drifts.  
white pebbles.

all this is  
mixed with  
sand, if not  
well sorted  
mix of shales  
and sand.

Yellow

66 ft

white sand

White sand  
Recently broken

109

Brown & sand & the  
white sand is

intermixed at top  
with  $\text{CaCO}_3$  nodule  
a rather hard layer  
a few inches thick  
(shades, sand & white  
limestone)

The soft <sup>white</sup> nodules of  $\text{CaCO}_3$   
are found in both  
sand & upper  
hard much

a few layers  
nodules also

The brown sand & the  
 $\text{CaCO}_3$  nodule  
a few inches thick  
shades, sand & white

16 M

142

Cut d rises 16-18

ft above road line  
(or bottom) just  
along river bank.

The clay is rather  
heavy, quite a  
dark brown, & shows  
blue streaks where  
water has stood

Shows a few small  
soft fine  $\text{CaCO}_3$   
nodules along  
bottom.

about 60 ft. down  
looking back

about 6-9 ft. down  
base from Pisgah.

of clam shells  
glaciers.

This is a peculiar  
flat-topped ridge  
✓ I found 2 pebbles  
near top. As

clam fragments  
were in surface  
it is probable  
they came from  
higher up.

<sup>143</sup>  
Cut e. is about 6  
ft. deep & runs  
up hill to NW.  
Its base near 45 ft  
above bottom.

It is sandy light yellow  
with few iron wels  
(upper part sand  
ironiferous  
& a few shells)

Cut f. shows yellow loam  
7 ft. down no fossils.

Ran down hill to west

<sup>145</sup>  
Cut g. is similar, more  
gravelly, 7 ft deep,  
& is longer. It runs  
up hill west.

Note plateau near  
Pisgah, & also on  
opposite side of river.

This is more or less  
rolling, & lower.

(at Pisgah, on E. side  
the hills show cut top,  
etc.)

Cut h. is yellow loam  
on gentle up slope  
to NW. It is  
yellow loam, - about  
12 ft. exposed.  
Shows no fossils  
Shows barrens

147

Cut is quite deep, a cattle way out through side of yellow loess. Did not examine closely.

148

Cut j.-on slope up to W, shows about 10 ft of yellow loess. Shows no fossils. On N. side of road.

149

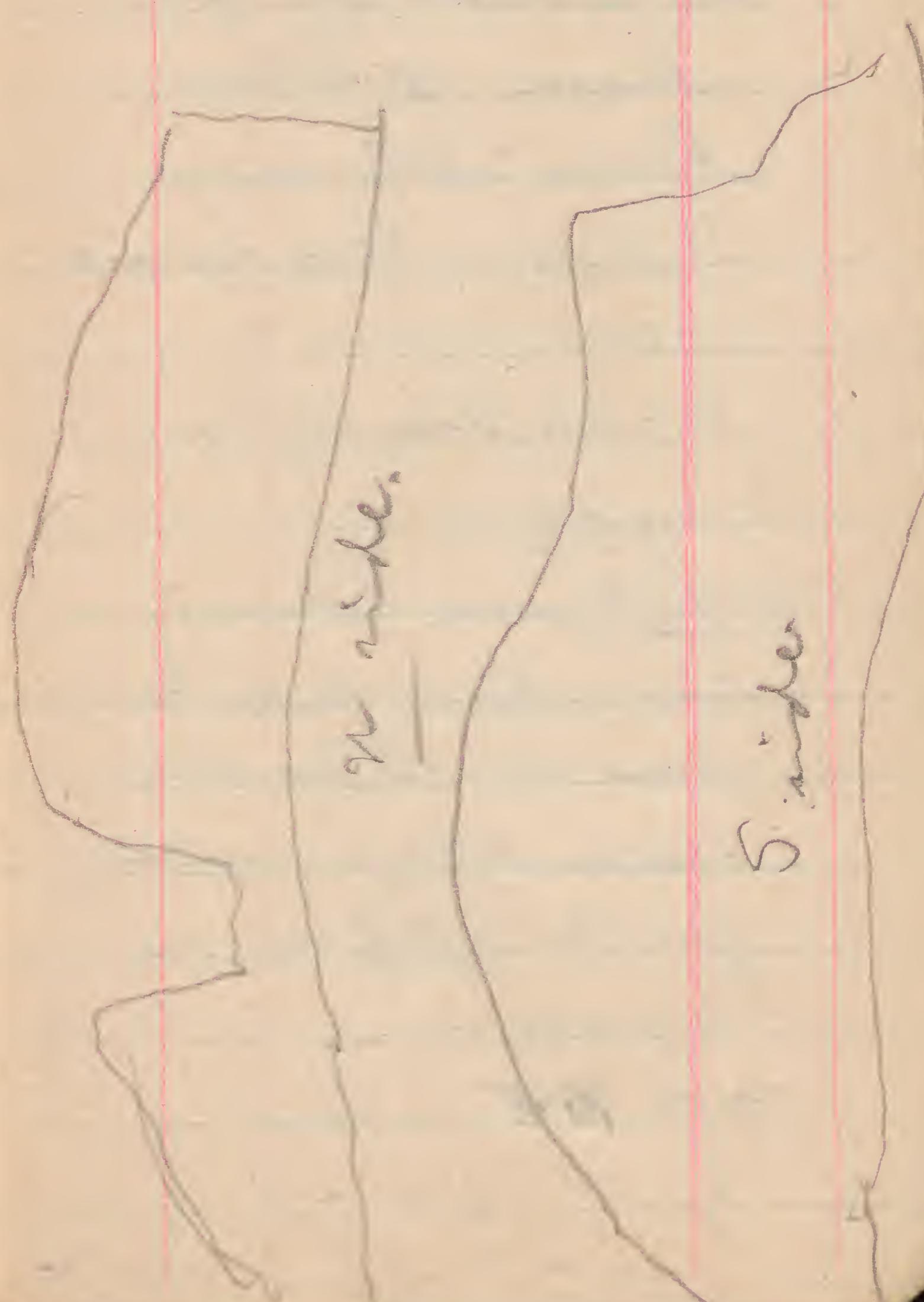
Cut k is short, 10+ ft deep & like j.

150

Cut l - base rests 155<sup>above bottom</sup> This is a cut across now sharp ridge & shows about 25 ft of yellow loess, streaked below horizontally with iron, & with few rounded nodules, & a few fossils.

Took sample near base & fossils

Shows laminating weathering parts toward base.



Cut in <sup>about</sup> <sub>100 ft.</sub> <sup>?</sup> ~~Red~~ ~~55~~

This is lower down  
& is straight.  
It shows on N.  
side several  
ft (6-8) of  
a hard streaked  
limestone (see sample)  
& below this is  
shown a blue  
limestone  
with iron  
tints. No fossils  
seen.

Nothing fine.

Cut in is lower,  
steeper, but I  
saw no blue limestone.  
Here large nodular  
fossils appear in  
road

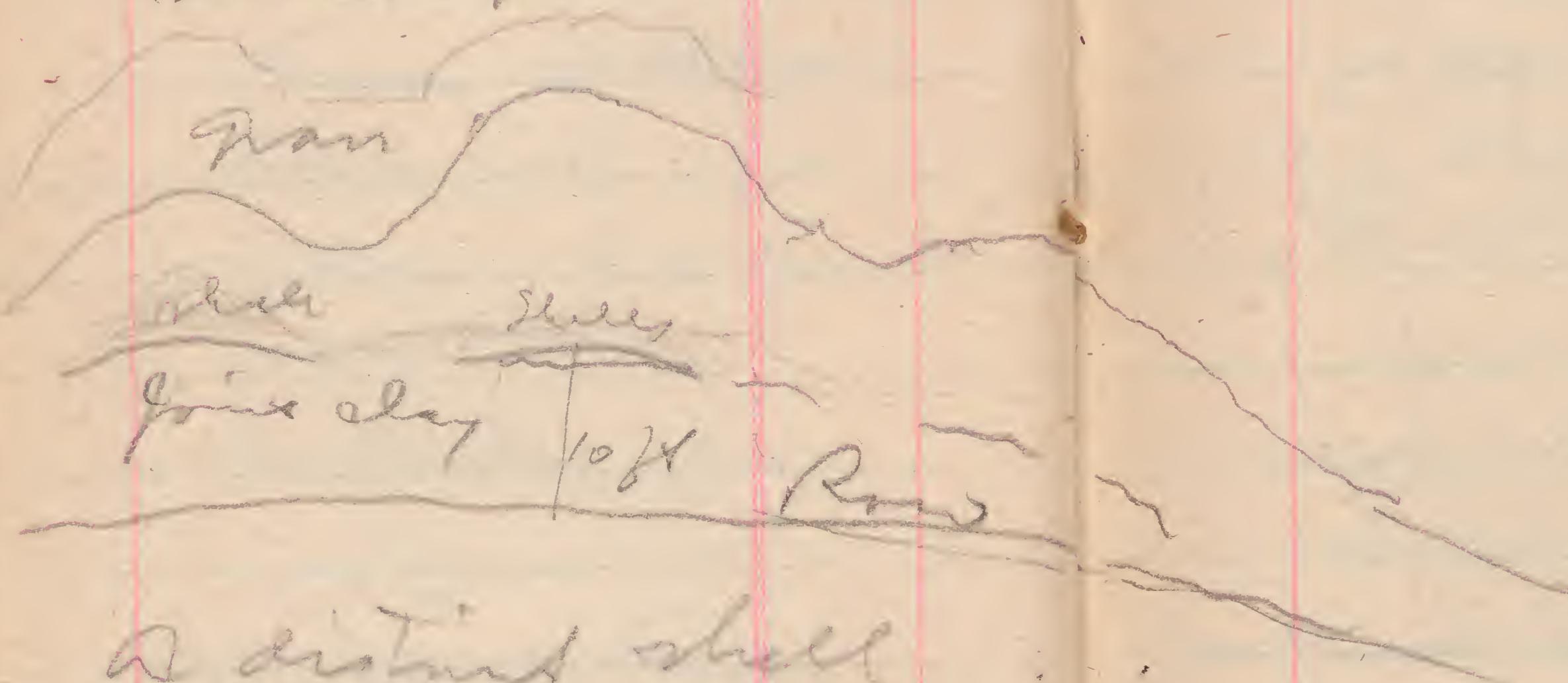
at 105 ft  
first gravel in  
road washed out

Below this clear  
gravel appears, &  
just a little below,  
below that I could  
make out nothing

My old station at  
foot of Murray hill  
was 10 ft. higher  
above ~~to~~ <sup>about</sup> ~~the~~  
bed foot on S.  
road.

cut 132 extends up  
slope from about  
110 ft point to 170  
ft or higher pt  
in road, at base  
(the hill rises to 290  
ft.)

The best part, right  
at base, on slope  
shows,



A distinct shell  
band appears from

6 to 12 ft above

and 3 feet

bottom, somewhat

thick very abundant

A low bank  
Joint clay is found  
just below shale  
layer. Tree  
quite short  
(Coraline)

Cut 133 is end  
ridge - sharp

25 ft. high

Base reads 170

top is 175

few fossils

yellow loam -

shells below only 1

over a little

harder,

Top of Murray hill

reads 295 ft.

about same.

The cuts begin

132 runs red

hard pan & partially

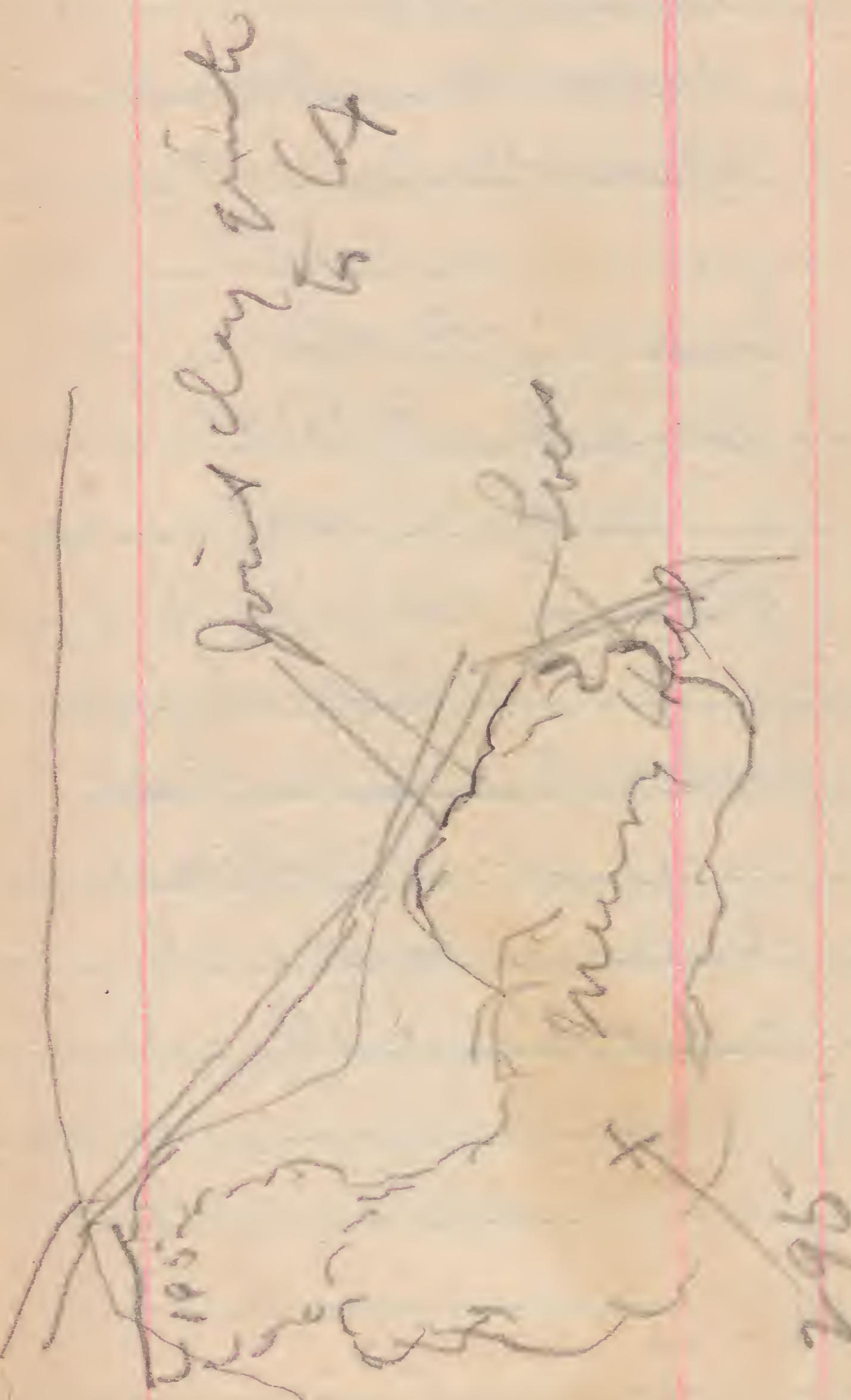
no loam until

2 at end, when

yellow loam

comes again &

makes up cut



Cuts 134 runs  
down hill E.  
Slump 8 ft of  
loam & a few  
shells - lime  
in hard loam  
lith in shell  
layer  
modular loam  
3-5 ft.

Cut 135 is  
similar but 10-  
12 ft. (gathered)  
Runs down hill E.  
Sands loam which  
is just a little  
below cut 135  
reads 130

Cut 136 - a  
small cut  
6-7 ft  
Similar  
Saw a few  
fragments of  
shells

a few small  
plumbeous oysters  
only a few  
2<sup>o</sup> school (m. g.)  
reads 50 ft  
on bridge

note alluvium  
of foot of many  
hills

The road from  
Murray's house east  
steeper down to  
S. of E., the  
drainage being  
toward the Solder

See also my elevation.

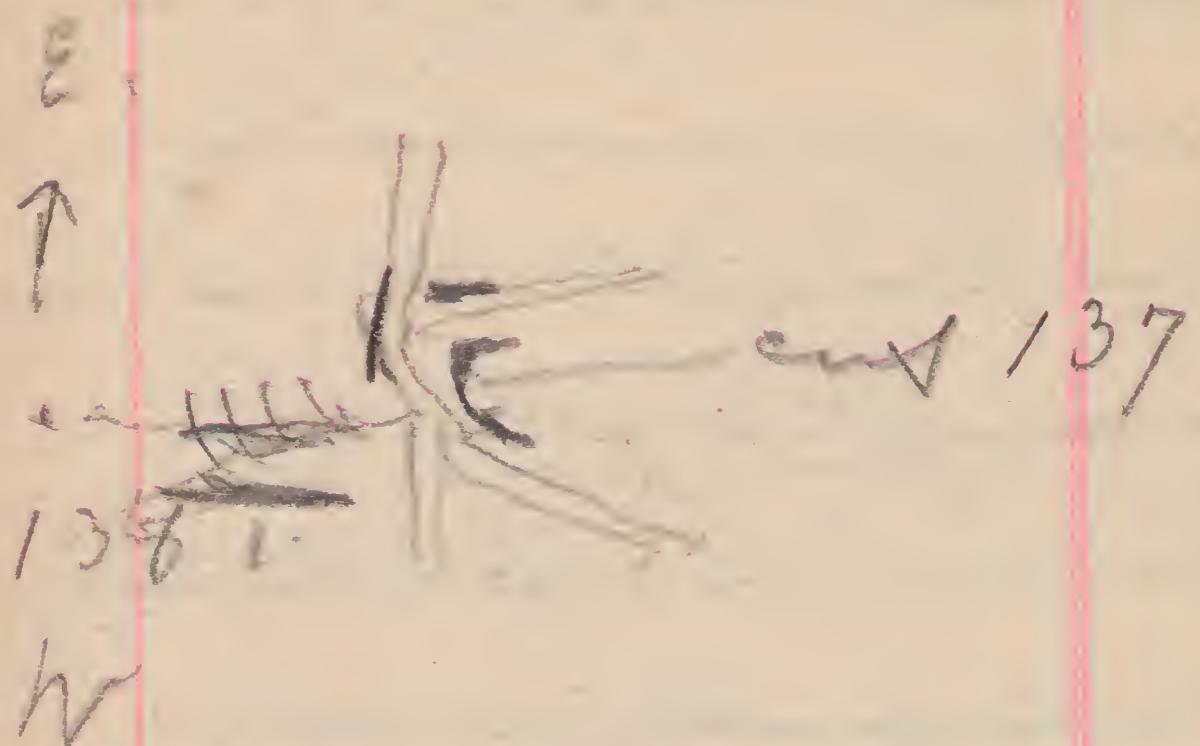
Line of Mr. Geo.  
Peyton, owner of  
sand pit, & many  
small works at  
Pisgah.

Gave me bones - these  
were found in ground  
above white sand.  
The elephant's  
tusk was found  
in ground below  
white sand.

So was mastodon  
tusk to Calvins.  
Mr. Peyton says  
he finds a dark blue  
clay under sand &  
soil.  
Will save bones  
& teeth.

Cut 137 bank  
about 12 ft high

on SW side of cut

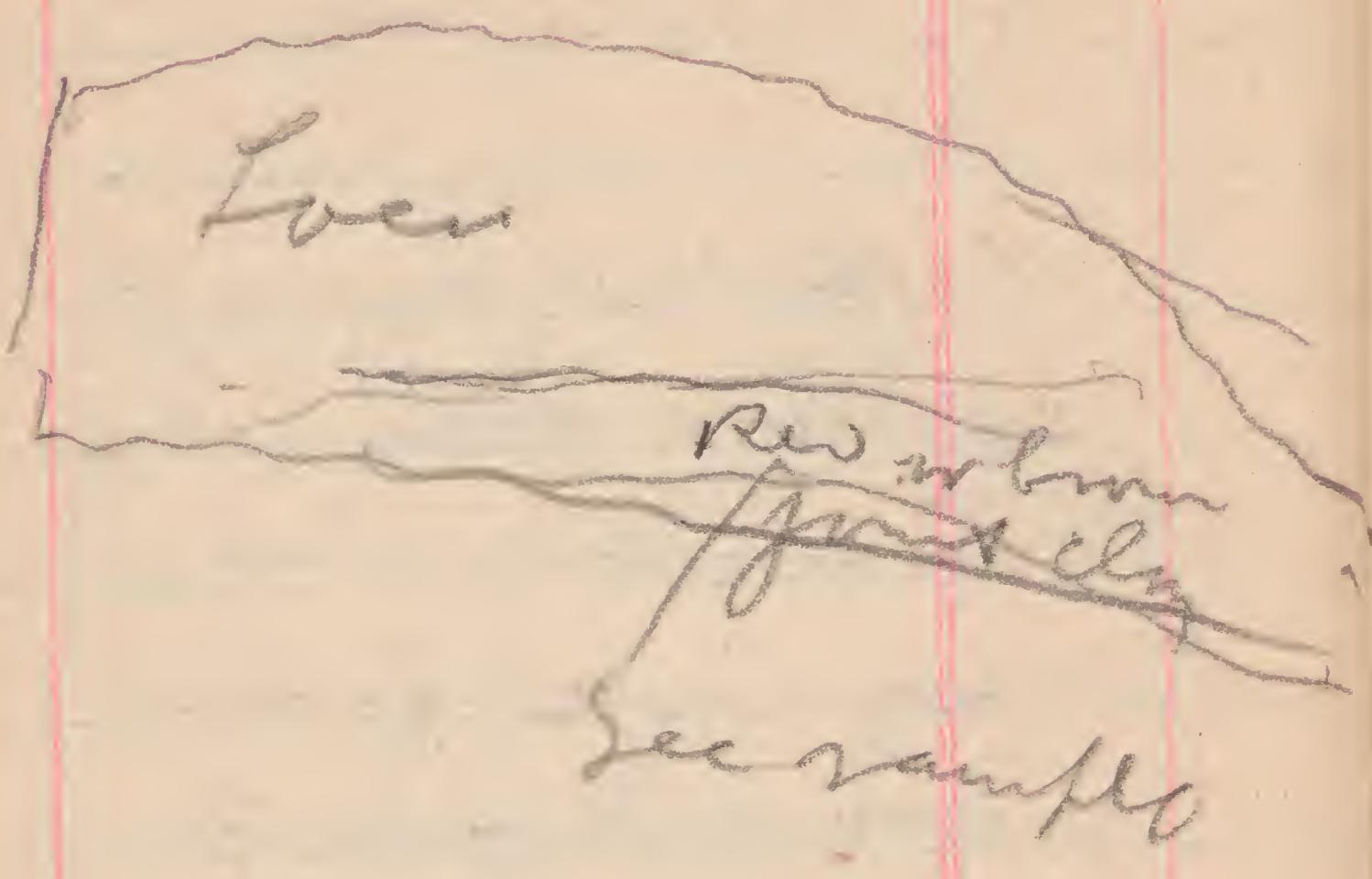


Ind sample.  
Spp yellow &  
few orange  
few found

Looking E - it seems  
to be very wavy,  
with patches of  
brinker. see my plan

Cut 136 in S. part  
of hill on SW side  
below road the  
clay & gravel  
drift below.

On W. side  
of stream



Two of the inner  
ridges E. shore  
at depth  
gravel shows that  
foot of hill is now  
bottom rises 30 ft.  
base of cut 137  
is about 20 ft  
higher.

✓ Photo 18 Peyston  
pit 8 m.

Found Morris clay  
Solomon

Cut 153 3 m

slope up - from bottom  
to crown road -

shows but little, -  
laminated yellow  
clay - - , mostly  
overgrown.

6-8 ft deep

Cut 154 slope down  
S. It is a well  
compact yellow  
clay. One finger  
bulky. Has darker  
layers distinct

Cut 155 slope up  
S. Cut 6-7 ft deep  
No distinct layers fairly  
distinct.

Similar to 154

Cut 156 is similar,  
in slope up to S.  
just at one of the <sup>8</sup> ends  
of road.

The lake, McWilliam  
Lake, is a shallow  
body of water -  
part of old river  
level?

It has a fine red  
swamp around it

Cut 157 on N. side  
of road. & only  
about 40 ft.  
above creek of old  
slope about 12

ft. of yellow, laminated  
limestone with few  
rounded nodules  
& a few fossils

In this vicinity  
some of 153 (lost)  
show calcification.

The uppermost  
modular layer shows  
in many places  
along road.

The north side of  
road along sec. 19 & 30  
81-43 is very rough  
as far E. & N.E. & N.W.  
as I could see  
the road is very rough,  
& has quite a number  
of small cuts showing  
yellow lenses. The  
upper modular layer below  
the lower, when shown,  
being yellow, with few  
rounded nodules.

Toward base of last hill  
going N., before turning E.,  
quite a bit of ground  
shows in road.

Only one, high up, showed  
fragments of Spec. 151.  
(This sp. is common in upper lens)

✓ Photo 19

Photograph in  
see 19-43-81

Cut 158 + cut 159

are in N. part

see 19-81-43

They show reddish  
layer + yellow  
loess with few  
coarse white

dark red fossils

No 158 is partly  
clumped.

No. 159 shows  
perhaps 8 or 9 ft  
of loess

Cut 160 is in

plain view - a  
coarse red

Did not go to

it, but

ordinarily yellow  
loess

I notice that in  
this part of the  
country <sup>about</sup> all the  
tops of ridges are  
yellow loess covered  
with prairie plants,  
they don't attempt  
to cultivate them  
as a rule, never the ~~ever~~  
just E. of the ~~ever~~  
crossing the  
valley ends in  
hills, & some of  
these show cut edges  
as do most of  
the very high hills  
in this part, -  
but especially  
where a valley  
heads E. or N. E.  
Cuts up also appear  
where a river  
juts out sharply  
into valleys -  
especially E. & W. or  
NE. & SW. valleys.

~~Cat steps are only  
on very steep hills,~~

Cat 161 is about 9  
ft deep, across  
end of ridge on  
which you pass  
(not high at this  
point). It shows  
light yellow loam  
with red horizontal  
striations, & few  
rounded nodules.  
Drew no fossils

On 2nd hill S. of  
my turn to S.,  
a little Kanner  
blue loam shown  
in road.  
Rest of loam yellow  
with rounded  
loam prominent  
yellow loam

Same compact.  
~~Blue loam shows  
some iron tub.~~

Cat 162 is a low  
low cut (4-6 ft)  
on low hill slope  
down to S.  
Upper nodular  
loam  
lower yellow loam  
(see sample)  
Few fossils.

Cat 163 on steep  
slope down (to S.)  
About 8 ft deep  
Nodular loam  
Below yellow  
loam with rounded  
nodules. Drew  
no fossils.

Cat 164 is  
mostly on W  
slope { about

18 ft deep, mud  
overgrown, but  
as far as I could  
see (even in road)  
only laminated  
yellow loam with  
rounded nodules  
1 nodular layer  
above  
a dry cut on  
steep hill rising  
to 5

Ex 165 on  
small slope down  
(to 8) as far  
as I could make  
out = same.

Several cuts, not  
numerous (too dark)  
were seen on  
way to Magnolia

Sep. 11 (Friday)

Picked up fresh shells  
in high bank on river  
just S. of first town  
from Magnolia to  
Mo. Valley, at  
Magnolia.

also Indian pipe.  
This grows up  
near top of high  
bank on which  
Magnolia is  
located.

Cuts 166

Four great walls  
S.W. of Cutler school.  
It is probably 40 ft  
high & 50 to 75  
wide with  
almost vertical  
walls.

The right half  
so far as I could  
make out, consists

of a blue ferruginous  
loess?

which may be  
repeated blue  
loess. It is  
mottled, with red  
tubes & irregular  
clustering of carbon  
bits & few small  
layers, of charred  
pieces, & one place  
where ashed (?)

This changes  
abruptly to  
a darker <sup>more fine</sup>  
stuff below  
(See sample.)

The 'ash' layer  
was about 2 ft  
above base of  
blue loess (?)

The darker layer  
below also has  
fragments of  
clay.

At base of bank  
a blue (very dark)

which is stony.  
A thin brownish  
expans to air, - or  
This is the brown  
stuff downwash  
from above.  
This seems to  
extend up about  
6-8 ft from base.  
The walls of  
creek show  
striations  
in upper part  
as if by water.

This stuff only runs  
back at least 6 m  
above 166.

Below the bank  
the greyish brown  
specimens & sand  
with more slumped  
mud. Runs so

to bluffs.

Cut 167 is on N. side of road, on a slight slope up to west. 5 ft deep. The slates are mostly from blending of upper weather layer & lower yellow light red streaks layer. Nodes as usually.

just below (w.) this there is another similar low cut. I could also see a few oblique in this as I passed.

Cut 168 at outlet, is on N. side & shows about 12 ft. of weather yellow, light brownish. Same nodes as before

The valley runs out even into Missouri plain. In its lower course it shows gravel.

Cut 169 is a big slump cut of yellow loess in a cut-off hill.

Cut 170 a smaller slump cut.

At Calburn morning  
gave a word

✓ Photo 20

$\frac{1}{2}$  mi. N.

Crappy lower  
bluff. Looking  
N.

Sep. 12 (Sat)

Spent day on hill  
Mr. Giddings helped.  
There was hot & dry,  
with a pretty steady  
breeze on the points  
1 & 3, but very  
gentle, etc. most of  
the time at the  
points.

The station 2  
seems to be especially  
hot & dry & desert is  
abundant.

Sta. 2 is so near  
the border that it  
has the border  
placostitites in  
large part.

The vegetation on the  
hills is showing effects  
of drought. The leaves  
(up on S. side of tree)  
are curved & turning  
yellow. The grass

is brown, so dry  
that walking is  
very hard.

The xerophytes are  
now blooming, the  
following being at  
this best:

*Aolidia nigra*  
*Asclepias glauca*  
" *virginica*

*Aolidia angustifolia*  
*Brindelia squamata*  
*Chrysanthemum*  
*Kirkia*  
*Lathyrus punctatus*  
*Helianthus rigidus*

Sep 13 (Sun)  
Went to Owl Creek  
"C. Bluff on.  
sta. 2

VV About 1 + 2  
sta. 1

W or washed

VV Looking N.  
Photos 384 sta. 2

Washed

VV Photo 546 fm high to  
sta. 1

Washed  
Looking W. of N.

Photo 746  
sta. 2

Washed

sta. 3

Looking W. of N.

down end of  
ridge.

The slopes & woods  
at my station at  
Crown Bluff have  
changed quite as  
much as those at  
Minnum Valley.  
The woods at 3 &  
4 are very dry,  
dusty, hot &  
they burn about as  
easily as bushes.  
The human slopes  
are brown, much  
of the grass is dead  
& many flowers in

of flower.  
 still well-flowered;  
 melilotus alba  
 Linaria punctata  
 " scorzonera  
 Helianthus scabiosoides  
 Ithome rigidula  
 " (numerous)  
 " (red)  
 " arvensis  
 Atriplex canescens  
 " oblongifolia  
 " seminervia  
 " ligustrina

Sept. 14 - Mon

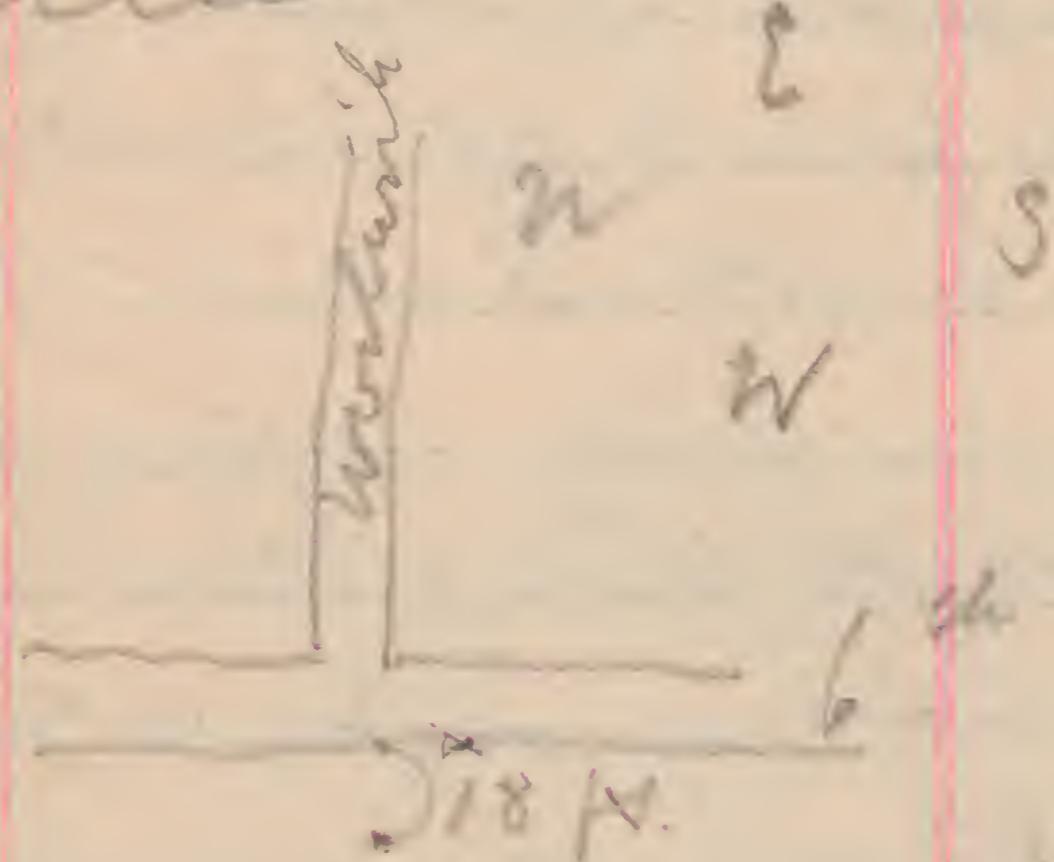
The station at  
Norlworth Ave & 6<sup>th</sup> St.  
is 20 ft.  
below top of Wyo  
Bdwy.

This ridge forms  
N.E. & the  
slope on which  
the station is  
located is well  
exposed to S.E.  
winds. (see top)  
The hill on  
top only a few  
trees left. & is  
covered with  
blue grass, etc.

Photos 1, 2 & 3 -  
Hill near from  
en. of Hammon  
& the job  
etc. of S.

The station is  
exactly opposite S.

sidewalk on Norlworth  
& in addition  
exposed to easterly  
winds because it  
is near where 1  
bank is off open  
street



a row oak 20 ft  
S.E. on edge of  
bank stands,  
station a little  
while in moving  
A bur oak 15 ft  
N. of W. does not  
reach station

Another tree 10 ft.  
is 15 ft. N. down  
slope, & another  
on edge of bank  
18 ft. N. of E.  
Neither of them  
stands alone,  
the stumps being  
entirely gone to  
S. & SW & to  
E. of S.

I shot 4 - (Horn)  
Looking S.E. along  
slope - Red oak  
6 straw  
out  
9 stumps  
missed

But  
out 5 & 6

Looking N. up slope.

tree	5 stumps	tree
tree	tree	tree

On opposite  
the tree on the  
bank on slope are  
Brooks - about 19  
Walnut 8  
Basswood 7  
Red elm 7  
Red oak 7

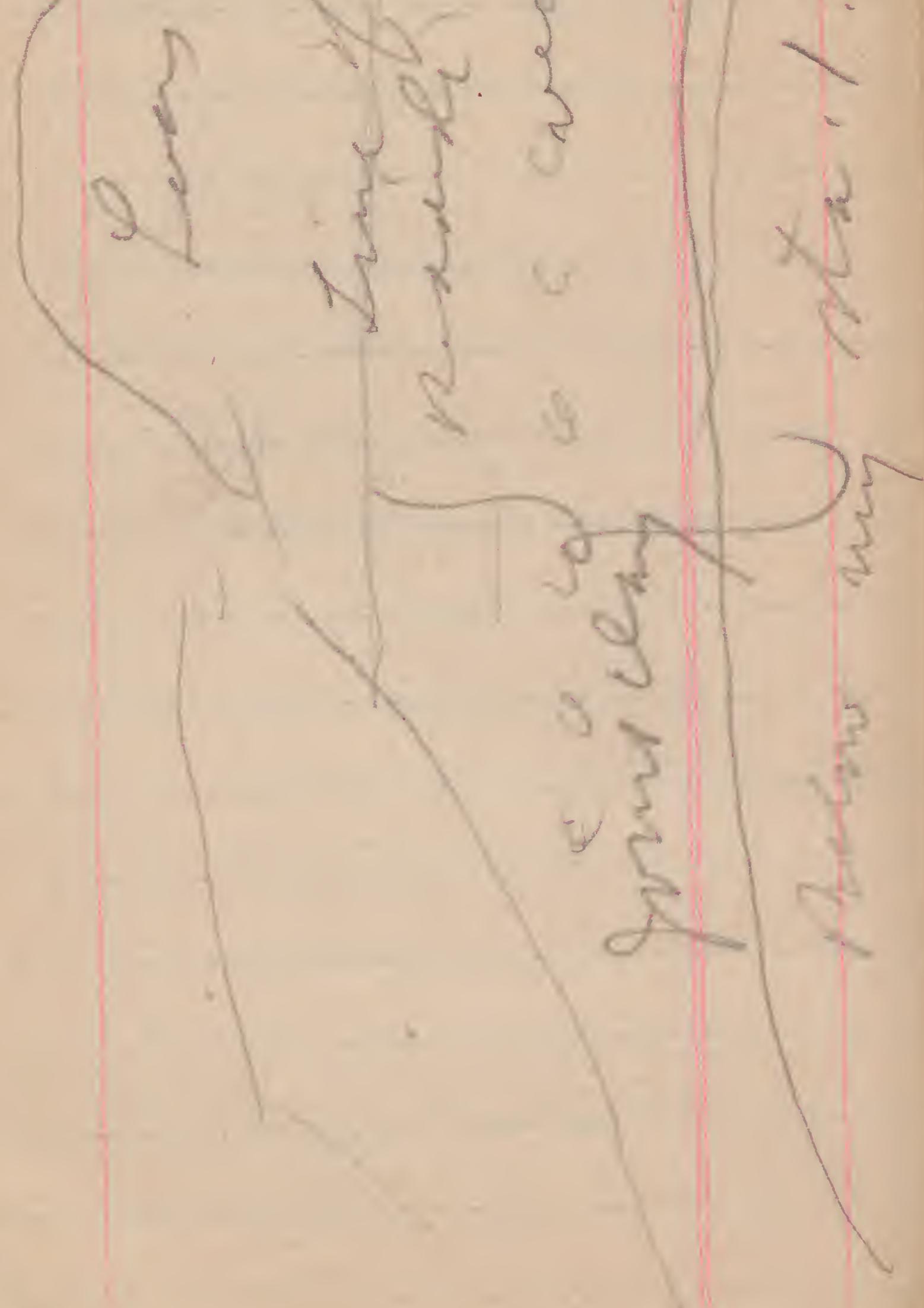
The next and (a  
few feet) here  
show red oak  
joint clay in  
lower half of  
slope, no but  
leaves cannot be  
over 25 ft.  
at deepest pt.  
Do I call this  
new lower before?

153

Bacon rating<sup>154</sup>

Brush	150
94 <sup>th</sup> st	35
at bridge-W. side	25
Pridge	35
Lowest place Erie	-2
at NW depot	-1
Brooklyn & Main (astern)	12
Sta 1	145
u 2	218

155



154 15 ft. 156  
cut 39

Sept. 15 - Tues.  
Pitman Valley

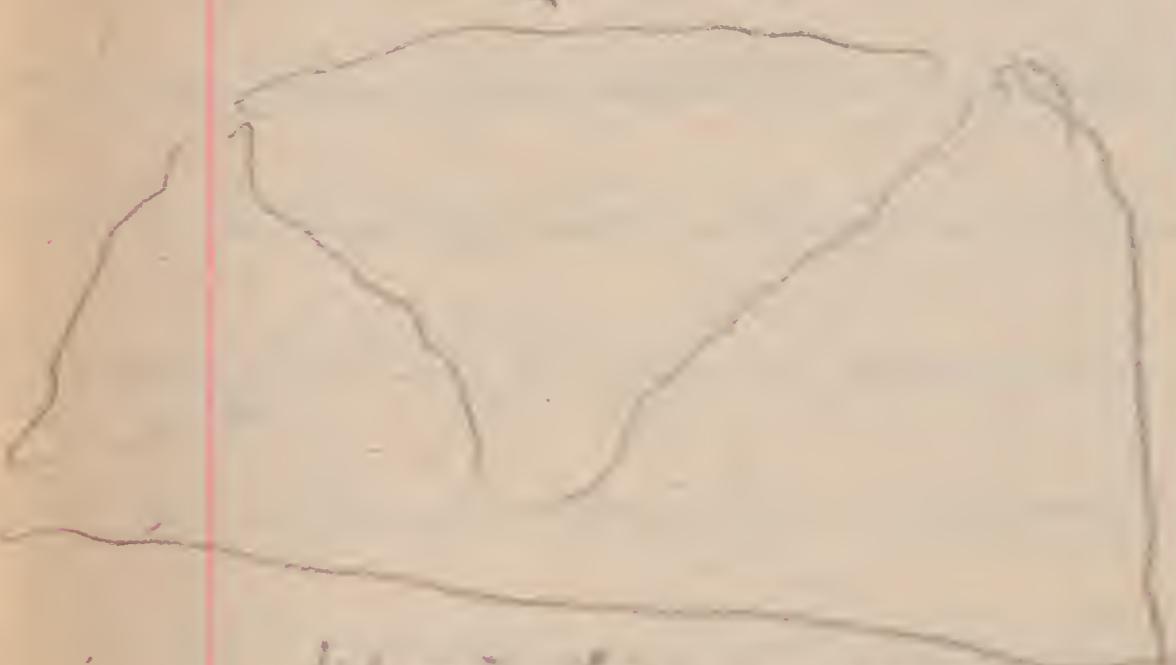
cut 39 is yellow  
low - 18 or 20 ft  
deep - W. side  
(This has been as it  
see my old sketch)

Nodules & nodules  
larger as before.

The W. side is mostly yellow

cut 40 is a short  
cut 6-8 ft deep  
vary yellow &  
with few fossils &  
nodules as before

cut 41 Being removed



W. side at 41.  
Tones

157

Glenwood 3.5 M.

yellow loam, sandy loam matrix  
below, brownish  
yellow loam - color

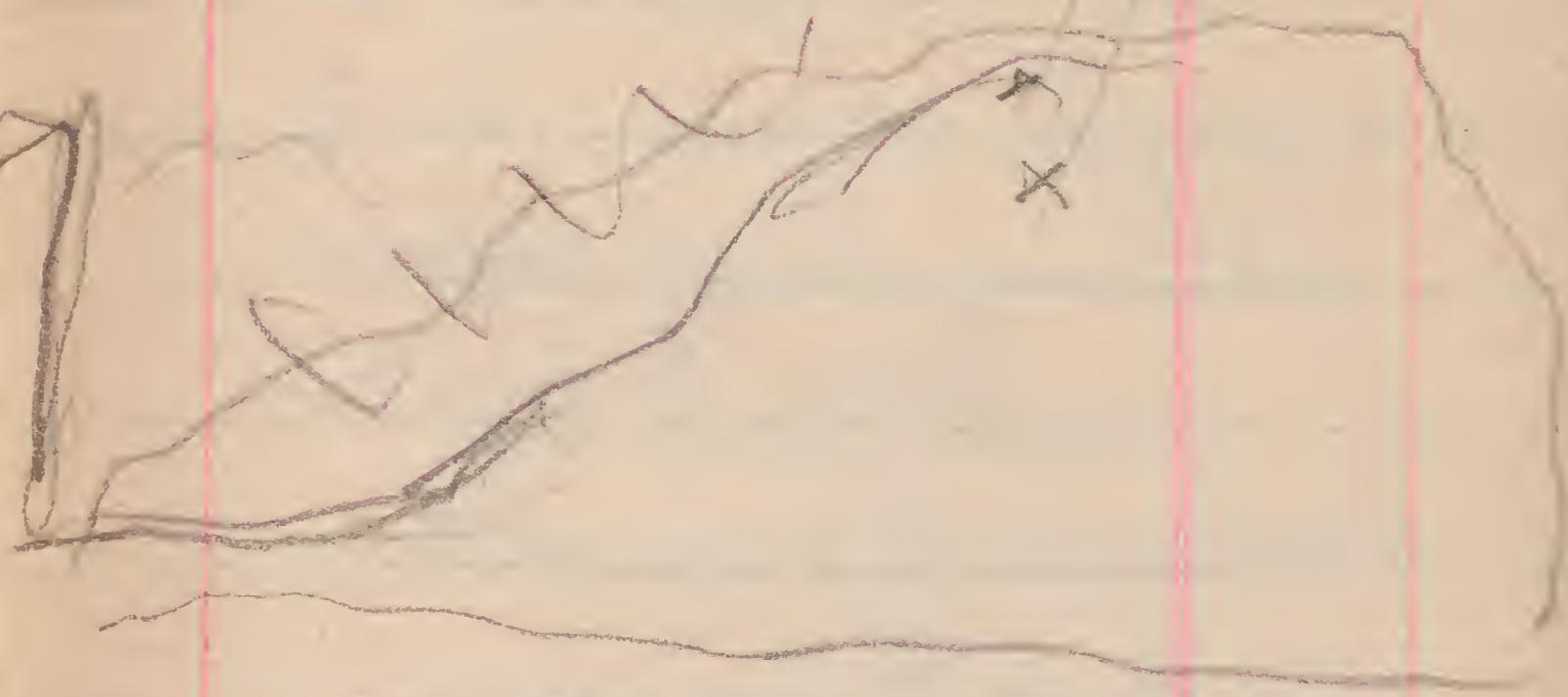
x sample

cut 41 2 miles

158

Cut 42 is more  
irregular - loamy  
matrix.

sample



loamy?

yellow loam, well  
laminated below,  
few iron nodules  
few fossils, pebbles  
dark sample of  
remnant fine-grained  
loam.

Also loam just  
below is lighter  
part of loam  
this may well  
soon disappear

159

Start roads 150  
Top of hill - return

205

Return 3 roads 175

John Paper  
Mo. Valley

Photos 2 & 4, Jan.

cut 68 in new

Paper 5 and

(some distance W)

& shows about

12 ft of yellow  
laminated limestone

a nodular layer  
with few angular

& dark nodules

very coarse.

Form very bad.

one oblique

Top of hill at return

again roads 205

In pm. rode back to

axis pit.

(See 8 La Grange 160)  
G. N. Longman  
(Farming Ind.)

✓ Photo 9 & 10 - Lying  
soil into coal pit,  
with limestone

Kansas

gravel

gravel

Photo 11 & 12 - Lying  
into pit - soil

without limestone

Photo 13 & 14 -

Coverage in  
soil

Sand

Gravel

Dust

The lower bed  
gravel is very  
irregular & broken  
more or less with the

Gravel about 14 ft

Sand up to 35 ft

Kansan drift up to

45 ft

Then above

the Kansan is

strongly divided

in upper part

The gravel is coarse  
boulders or water-worn  
rounded & there  
are some large  
boulders (a few)  
most of the gravel  
is very sandy  
Quartzite

In Cott's pit - just  
below this layer (6 in)  
was a layer of white  
fine gravel in 4 or  
5 ft

The big boulders  
are big boulders & the  
dams came from back part!

Sep. 16- Wed.

Parker Ave.  
R.M. - west N.

Cut 69. This is its  
N. part is a high  
cut, mostly of yellow  
loam, but showing  
at base, near school  
about 18 ft. of  
reddish yellow clay

about 8 ft

in.

School

Reddish drift  
yellow clay with small  
pebbles in lower part

above the drift there is evidently  
here, for many pebbles are in  
drifts of sand, which shows with  
greenish stains

visible. Took sample of just clay about 7 ft. from top of gumbo layer (2 ft. above wall). The pebbly drift appears only at W. end of cut, all that shows on side of slope is reddish yellow clay with iron streaks, & white limy lime & cladding (efflorescence)

At reading 68 ft. - which is at base of big cut sloping down from part which I marked cut 67 ft. to end 69.

The bank here is probably over 30 ft. high, & at its very base the low ground

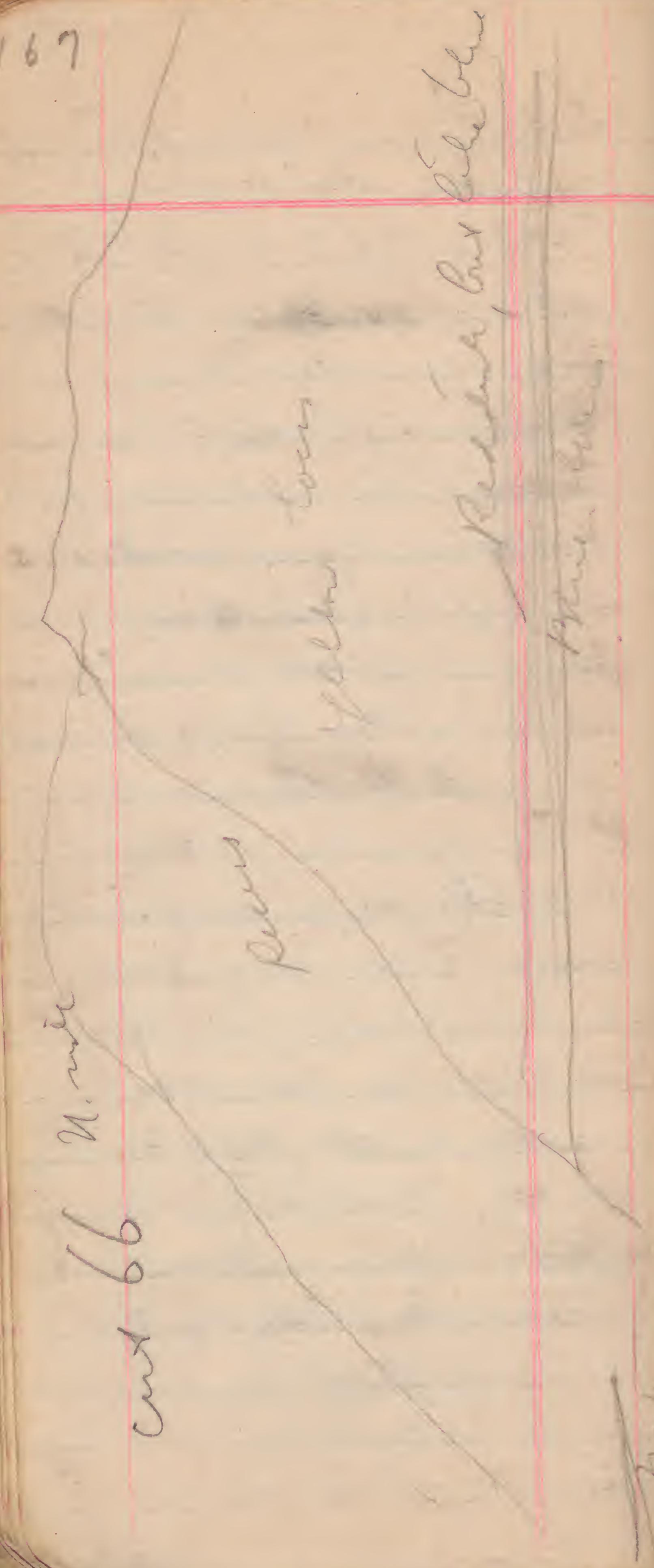
appears gray, - looks almost as if it ought to be blue here. (See sample) a few scattered fossils appear in this upper part. It shows in cross cut past a few iron tubs, iron stain distinct in yellow bank above on many places,

Cut 66 shows a fairly clear blue layer with a few iron tubs at very base on N. side, & on flat in the pit. This layer is very fossiliferous (Brachiopods) Sample of blue clay a

" 2 ft. above b  
" near top red c  
" 6 ft. " d

This blue layer bleeds very base the low ground with a reddish

Cut 66 N. side  
cut 66



but still blue-like layer  
for 4 or 5 ft.

above this material  
is a blue layer at least  
2 or 3 ft., & then  
blends up with yellow  
layer.

I will see no drift  
or red gravel in  
cut 66, but in a little  
cut on the S. side of  
of small hill leading  
down to its top 8 or  
9 ft. below base of  
cut 66, there is  
distinct Kansan (small  
pebbles) & above it  
a not well defined  
red band.

As this slopes down to  
W. it is probable that  
base of cut 66 is very  
near Kansan or red  
gravel. Laminations  
are distinct, especially  
lower.

169 horizontal streaks  
The upper yellow layer has  
some small nodules, etc.

Box 5 are with

1	sample of
2	upper
3	yellow layer
4	about 8 or
5	10 ft from
6	top of sec.
7	end of cut
8	(Cotton ls.)
9	There is
10	quite a
11	distinct
12	shell band
13	in lower
14	part of
15	upper yellow
16	layer or
17	E. side -
18.	nodules few of gravel in this in blue, some large

170  
Cut 70 is just at  
Joint 5. of cuttings  
to Sandpiper's Valley

It shows fine gravel  
Kangaroo about  
20 ft above iron  
(new 60 ft iron, which  
is about 25 ft back)  
This has white cal-  
careous, & containing  
pebbles.  
Above that is  
run into a rather  
thin (2-3 ft.) red  
gravel, pebbly  
below. On this  
very sharp  
transition (see fig.)  
is a blue ferruginous  
layer with large  
iron outcrops.  
About 6 ft. is blue  
Above that overgrown  
the black & white layers  
alternate & thin, sometimes  
a few inches, or less, thick.

Sep 4 - 1908

At Mo. Valley  
Plates <sup>75</sup> <sub>1.80</sub>

At Logon

Lunch <sup>40</sup> Team <sup>25</sup> .95

At Mo. Valley, lunch .50

Sep. 5 - 1908

1st and 2nd day, lunch .45

Tours to Co. Bluff - Dade \$1.16

Sep. 6, 1908

Companie .55

Tours - Co. Bluff .25

Tours to Mo. Valley .43

Sep. 7, 1908.

Plates 1.00

Sep. 8, 1908.

Magnolia lunch few .50

Sep. 9 - '08 1.50

The Line Inn <sup>1.50</sup> few 1.50

Lunch - farm &amp; few .85

Sep. 10 - 1908

Piney - Hotel <sup>75</sup> <sub>85</sub> few 1.60Lunch, few <sup>25</sup> <sub>35</sub> .60

Sep. 11 - 1908

Magnolia Hotel <sup>75</sup> few <sup>1.00</sup> 1.75  
(not inclu<sup>s</sup> in Valley - Plates) .50Sep. 12 - Plates .50  
Lunch <sup>30</sup> few <sup>15</sup> .40Sep. 13 - <sup>1.68</sup>  
Tours to Co. Bluff <sup>74</sup> .74  
carfare .40The black & white  
widge's <sup>exhume</sup>  
on E. line of "line"  
about 3 ft. is  
also several rodsSep. 15 - Tour to Mo. Valley .68  
Markets <sup>10</sup> Boxes <sup>20</sup> .30  
Dray <sup>25</sup> Wine <sup>10</sup> 35Sep. 16 Papers <sup>20</sup>, nails <sup>5</sup>, iron stiff <sup>5</sup> - .30  
1 Hotel - 9.00Tours to Gadsden <sup>4.89</sup>  
Bike .45Crown Barber lunch <sup>35</sup> .35  
Dray <sup>25</sup>, bike <sup>25</sup>  
fare to Town City .65

173 On top Pisgah  
Magnolia - 100 ft

Big cut down

1. 12' a up  
(1/2 mi.)

Steep hill down

Deep cut

Road near B

Road W.

Road near Estes  
bore up hill

3 cuts

2 1/2 mi. long  
2 1/2 cut

2 mi. long  
Road on

Road W.

16  
14

16  
14

7m 1111 4 3/2

7m 1111 4

